

O A 1 2 3 4 5 - Days p.i.

— RID β

- 14.7K

gp19K

a b c d e f g

FIGURE 29

gp19K

RID β

14.7K



FIGURE 30A

FIGURE 30B

FIGURE 30C

TNFR1	362	V V E N V P P L R W K E F V R R I E G I S D H E F I D R I E L Q N G R C L R F A Q Y	401
Fas	236	I A G V M T L S Q V K G E V R K N G V N E A K I D E I K N D N V Q D T A E Q K V	275
DR3	338	V M D A V P A R R R W K E F V V R T I C I R E A E I E A V E V E I G R - F R D Q Q Y	376
TRAIL-R1	348	F A N I V P E D S W D Q I M R Q I D T K N E I D V V R A G T A G - P G D A L Y	386
TRAIL-R2	316	F A D L V P F D S W E P L M R K E C I M D N E I K V A K A E A A G - H R D T L Y	354
TNFR1	402	S M I A T W R R T P R R E A T I E L E G R V T R D N D E L C C L E D I E E	439
Fas	276	Q L I R N W H Q L H G K - K E A Y D T I K D T K R A N E C T L A E K I Q T	313
DR3	377	E M I L K R W R - - Q Q Q - P A G I G A V Y A A L L E R V C E L D G C V E D I R S	411
TRAIL-R1	387	A M L M K W V N K T G R - N A S I H E L L D A L L E R H A K E K I Q D	423
TRAIL-R2	356	T M I L I K W V N K T G R - D A S V H E T I L C E R L A K Q K E	392

Figure 1

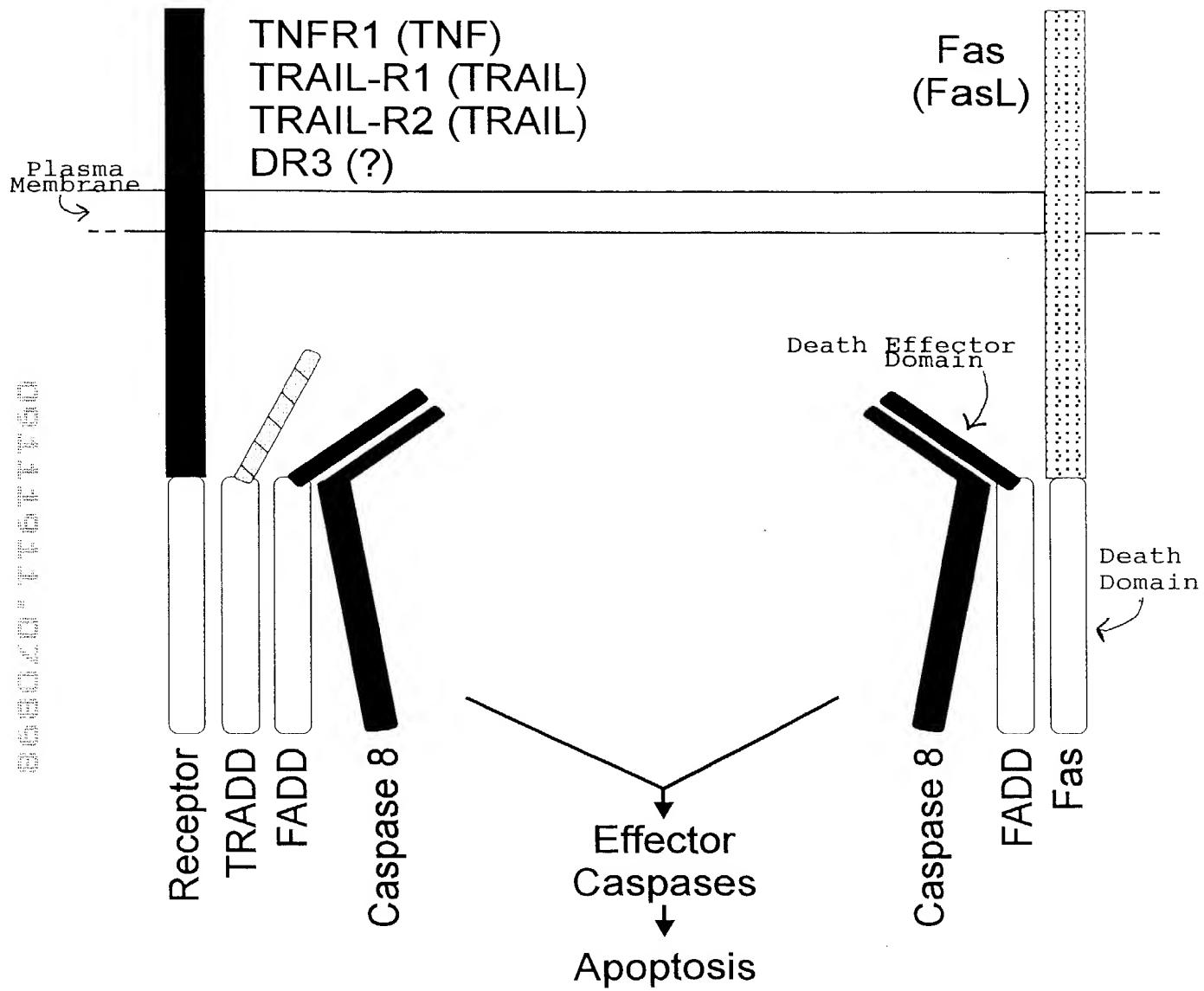


FIGURE 2

RID COMPLEX

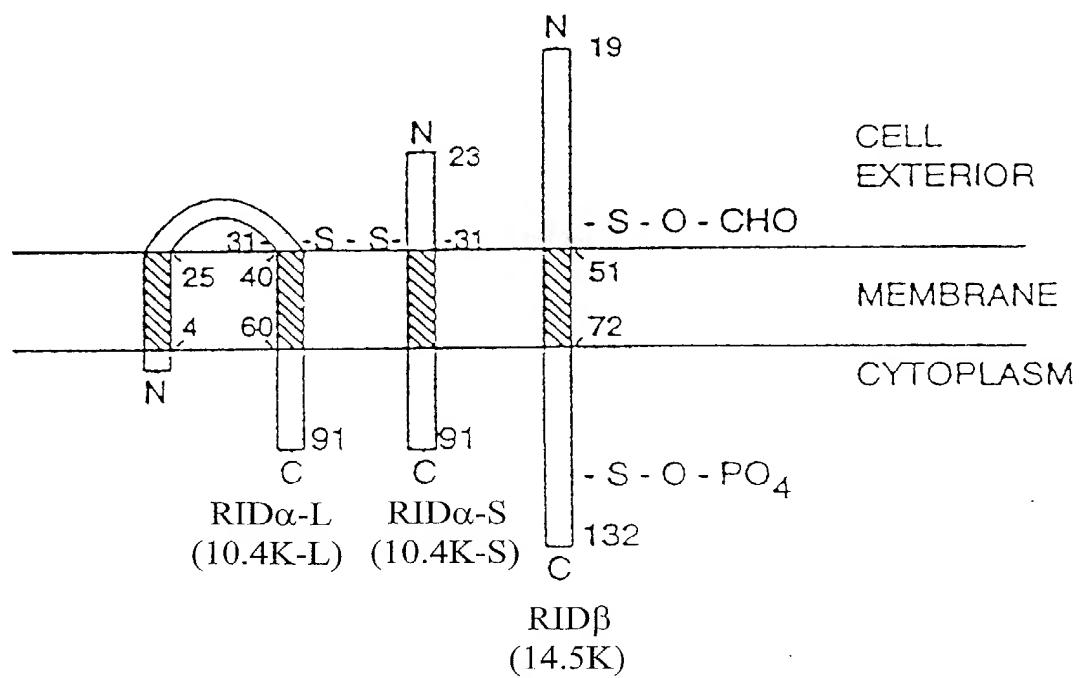


FIGURE 3

RID α -L (10.4K-L)

10 20
M I P R V L I L L T L V A L F C A C S T L A A V A H I E
signal sequence

30 40 50
V D C I P P F T V Y L L Y G F V T L I L I C S L V T V V
* transmembrane

60 70 80
I A F I Q F I D W V C V R I A Y L R H H P Q Y R D R T I

90
A D L L R I L

Figure 4A

RID α -S (10.4K-S)

10 20
A V A H I E V D C I P P F T V Y L L Y G F V T L I L I C
* transmembrane

30 40 50
S L V T V V I A F I Q F I D W V C V R I A Y L R H H P Q

60
Y R D R T I A D L L R I L

Figure 4B

Pre-RID β (14.5K)

10 20
M K F T V T F L L I I C T L S A F C S P T S K P Q R H I
signal sequence

30 40 50
S C R F T R I W N I P S C Y N E K S D L S E A W L Y A I

60 70 80
I S V M V F C S T I L A L A I Y P Y L D I G W N A I D A
Transmembrane

90 100 110
M N H P T F P A P A M L P L Q Q V V A G G F V P A N Q P

120 130
R P P S P T P T E I S Y F N L T G G D D
* *

Figure 4C

Mature-RID β (14.5K)

10 20
S P T S K P Q R H I S C R F T R I W N I P S C Y N E K S

30 40 50
D L S E A W L Y A I I S V M V F C S T I L A L A I Y P Y
Transmembrane

60 70 80
L D I G W N A I D A M N H P T F P A P A M L P L Q Q V V

90 100 110
A G G F V P A N Q P R P P S P T P T E I S Y F N L T G G
* * D D

Figure 4D



FIGURE 25



FIGURE 24

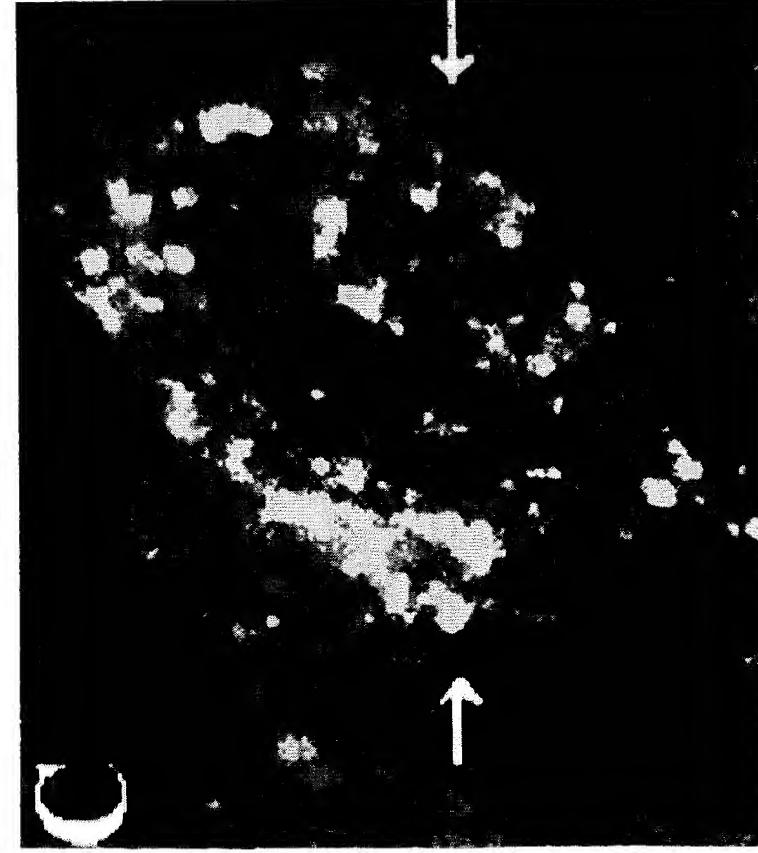
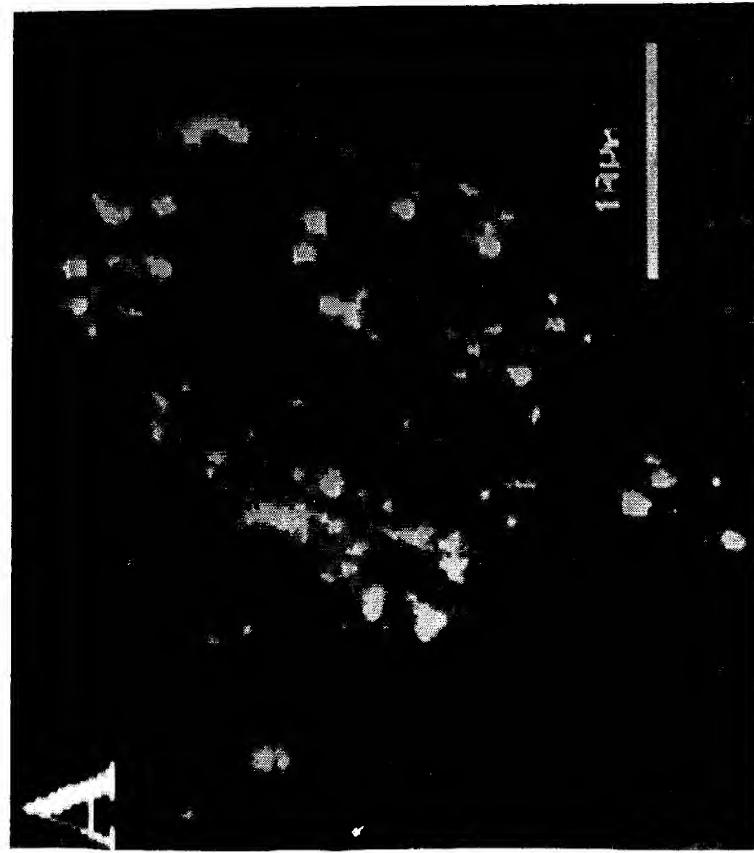
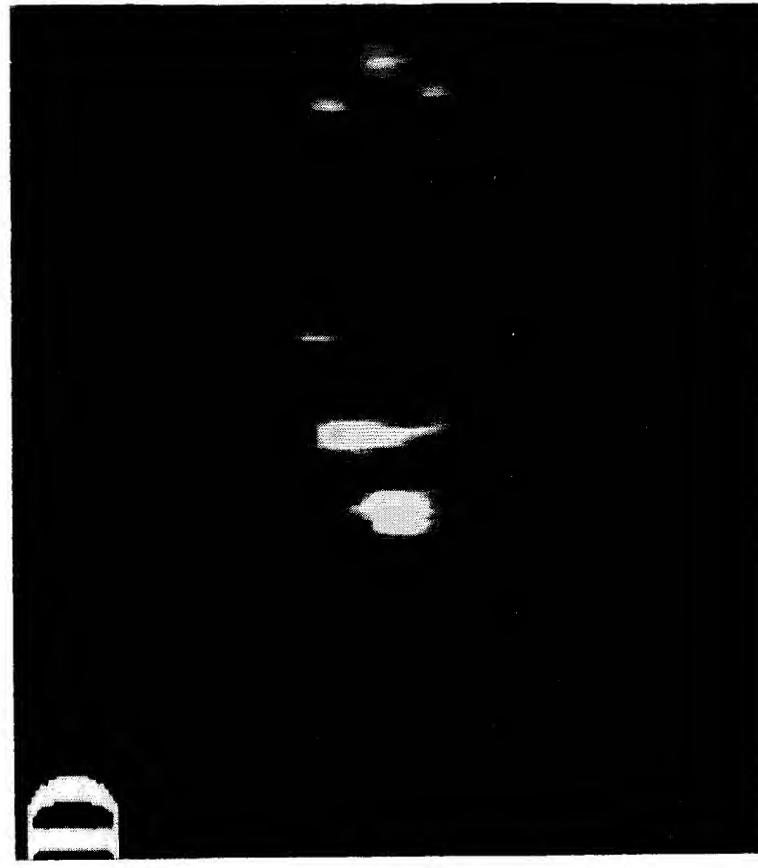
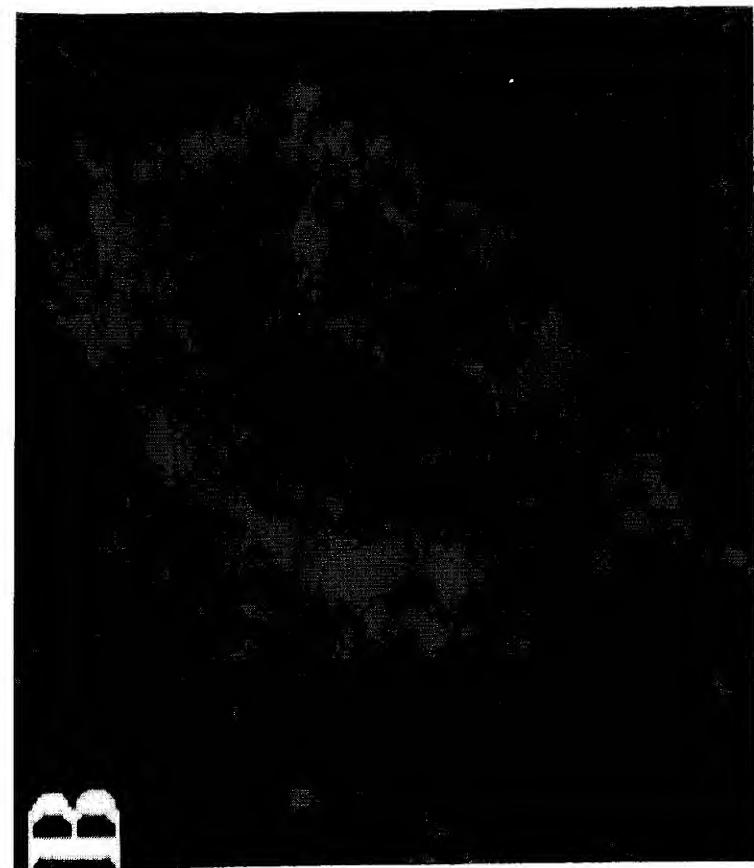
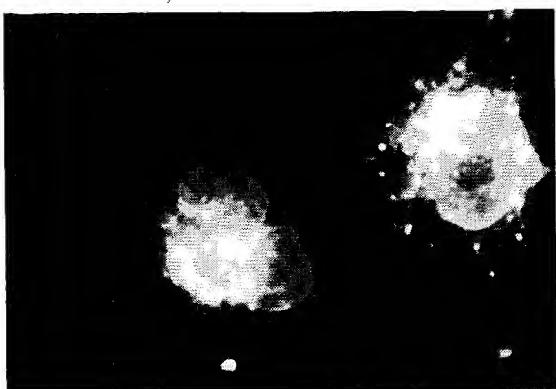


FIGURE 12

FIGURE 11

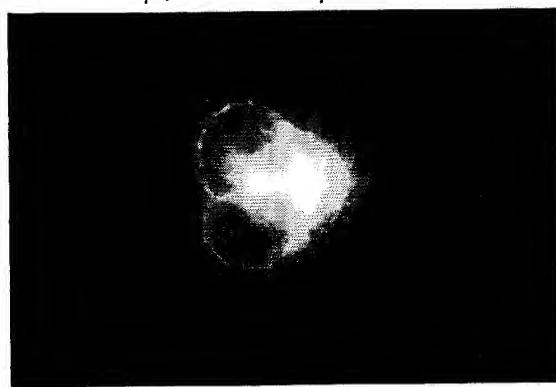
A. RID α , anti-RID α



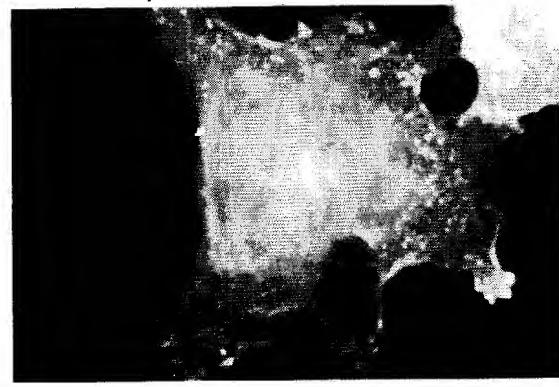
B. RID α , anti-Fas



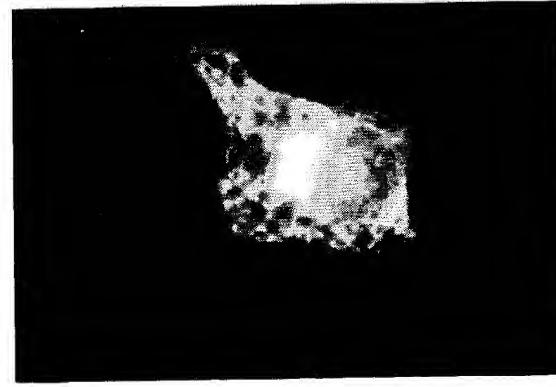
C. RID β , anti-RID β



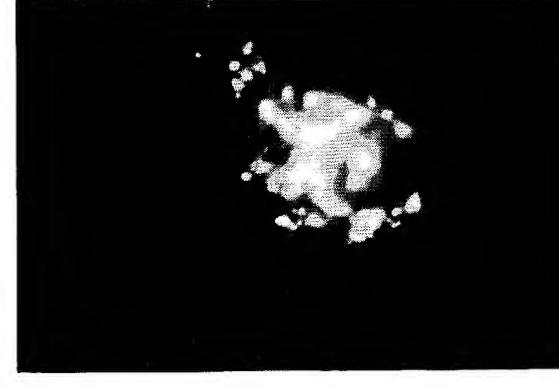
D. RID β , anti-Fas



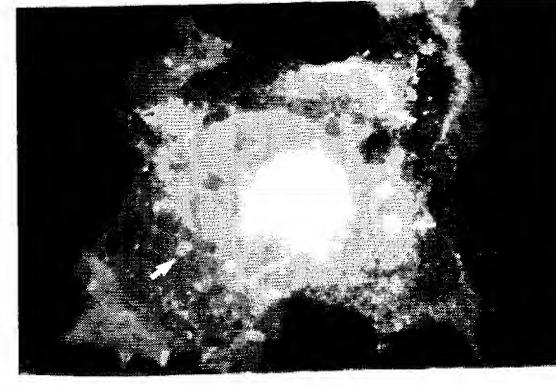
E. RID, anti-RID α



F. RID, anti-Fas



G. RID, anti-RID β



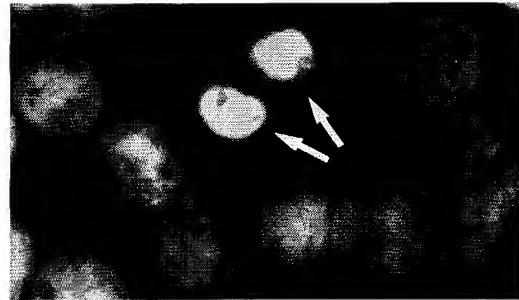
H. RID, anti-Fas



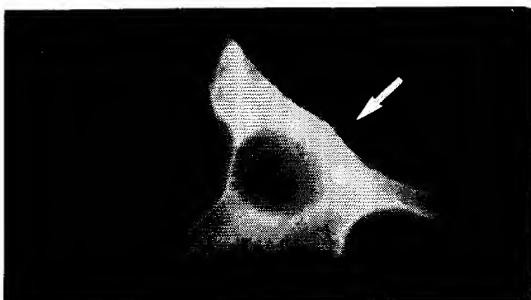
A. *rec700*, anti-DPB



B. *rec700*, DAPI



C. RID, anti-RID β



D. RID, DAPI

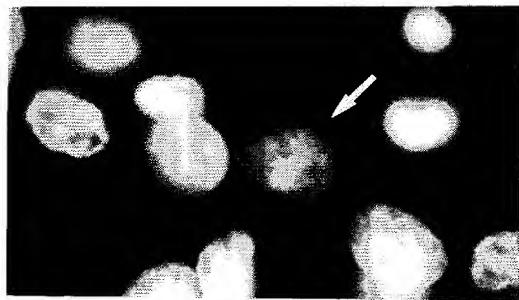


FIGURE 6

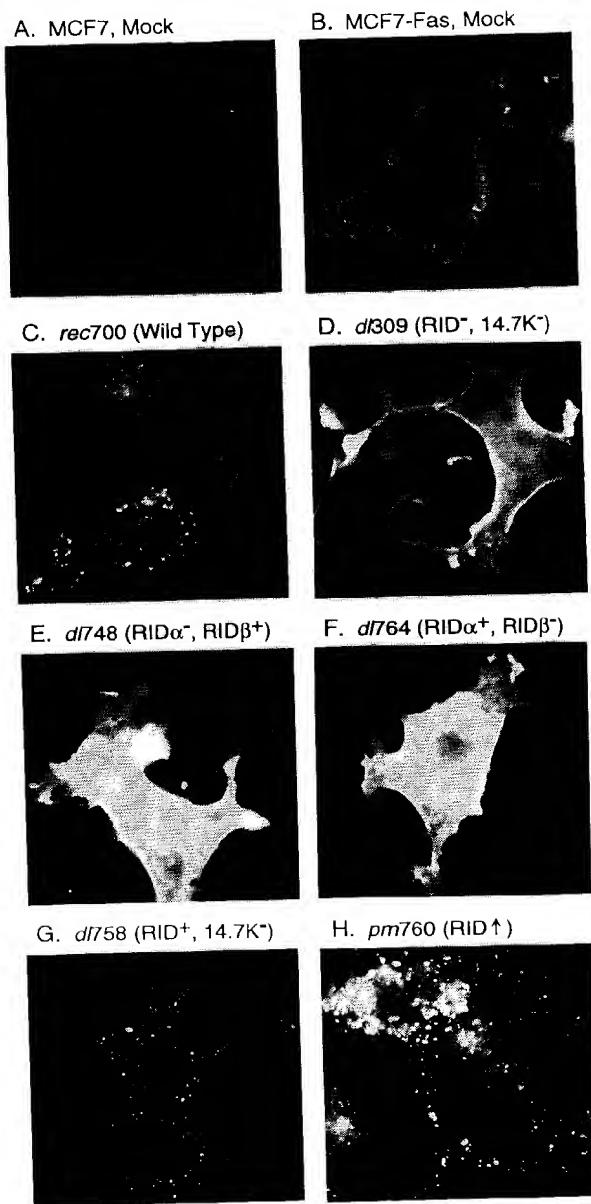


FIGURE 9

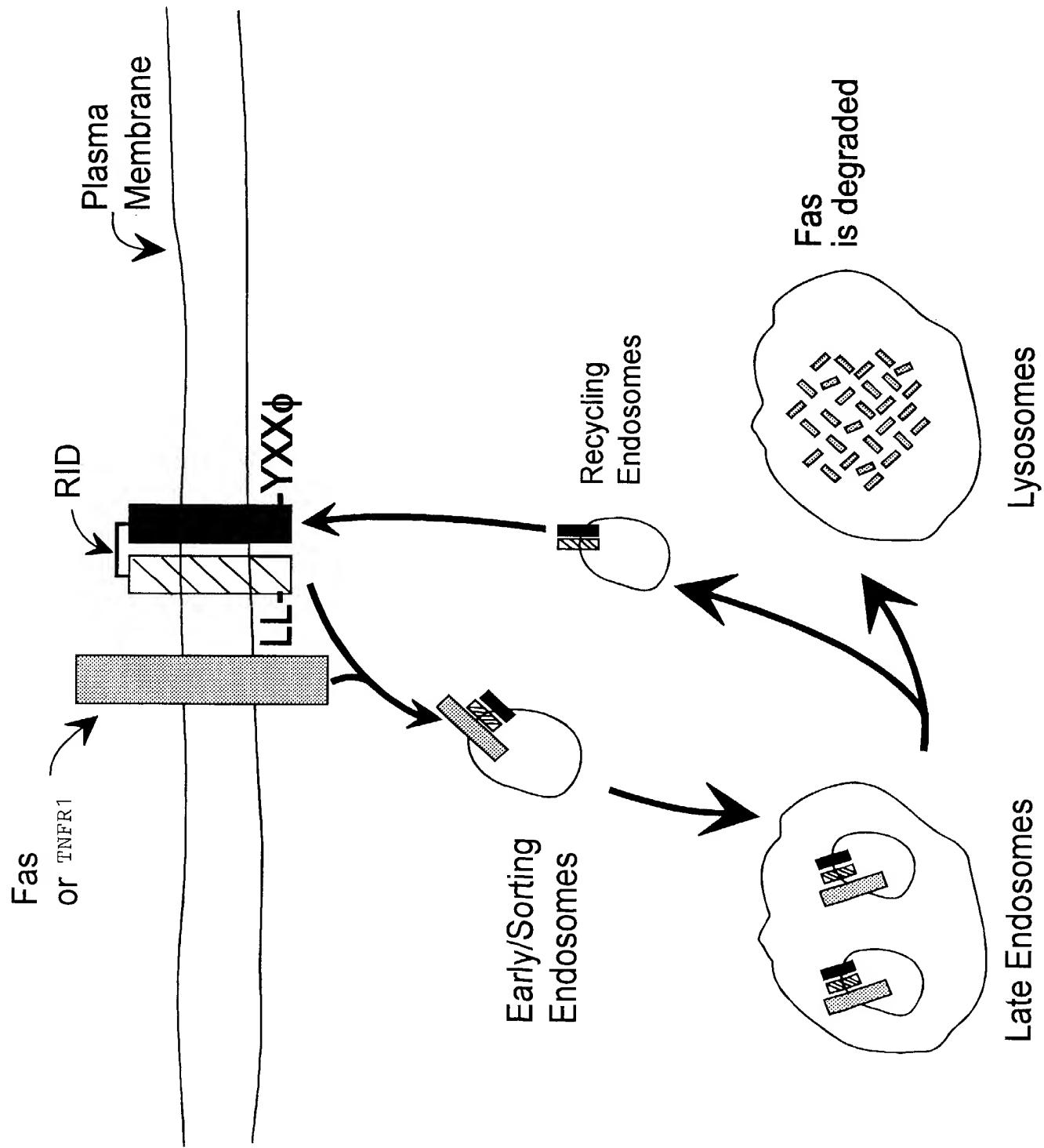


FIGURE 5

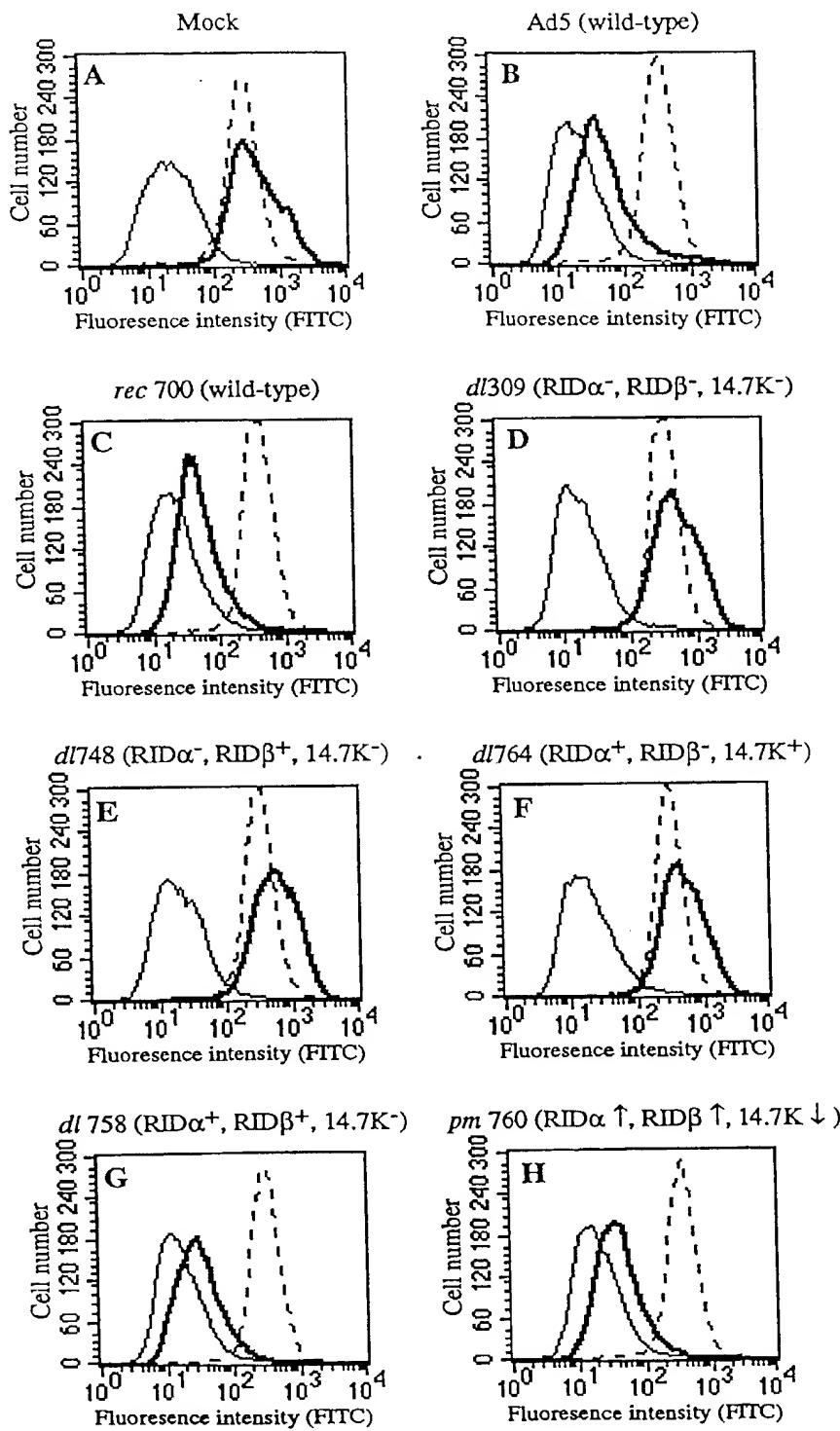


FIGURE 7

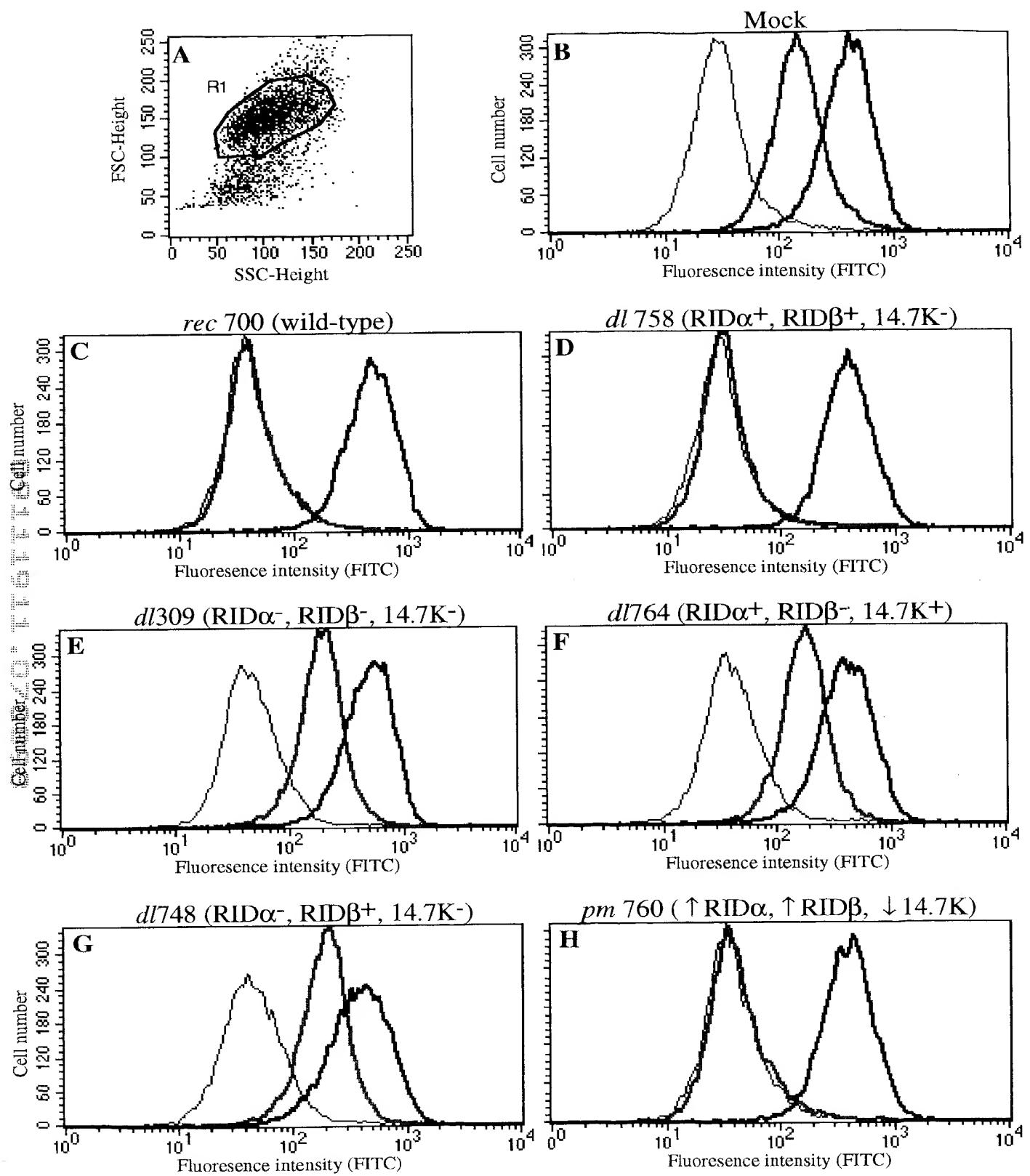


FIGURE 8

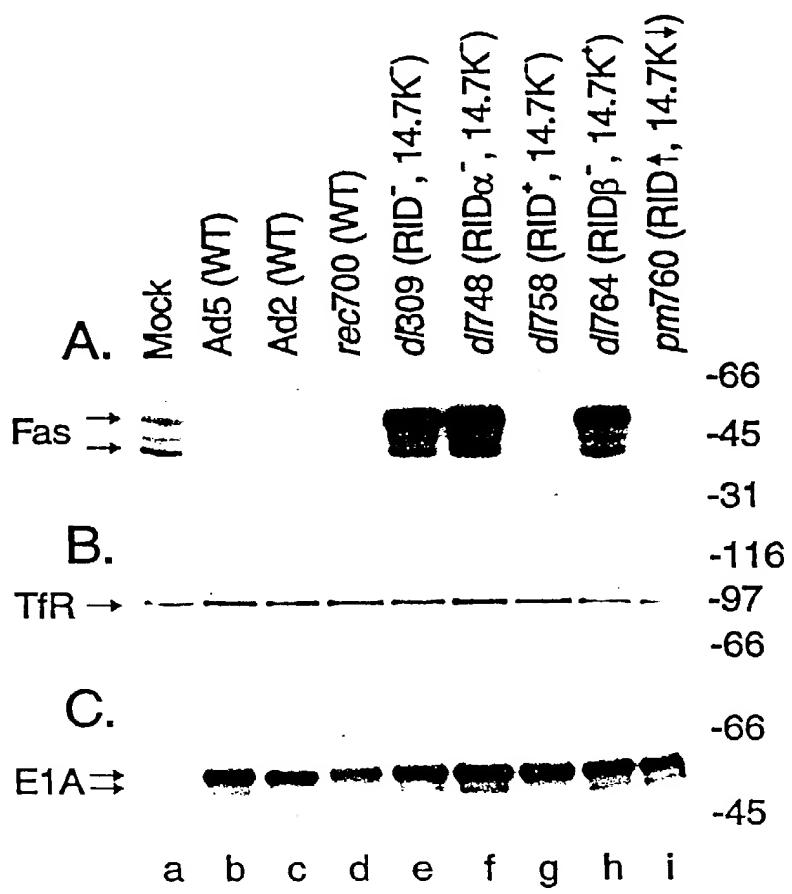
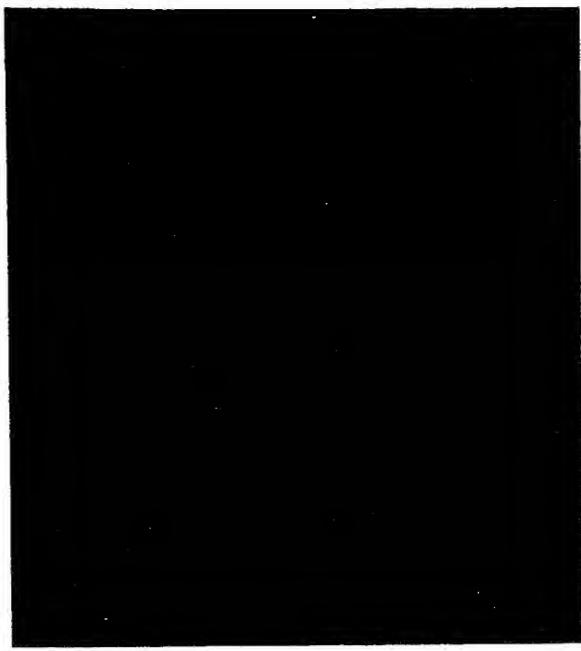
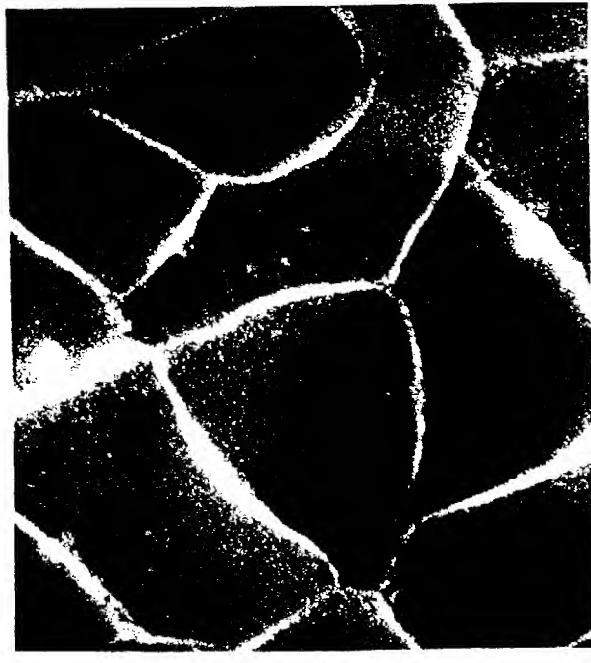


FIGURE 10

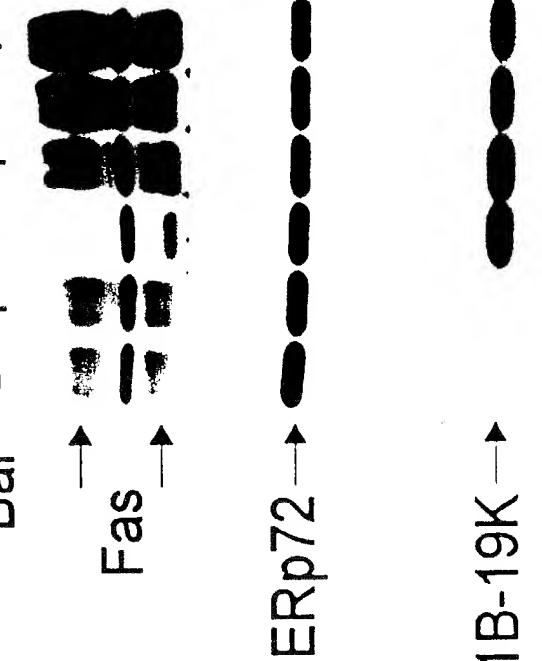
A *rec*⁷⁰⁰ (WT), Baf⁺
B *rec*⁷⁰⁰ (WT), Baf⁻



C *d/309 (RID')*, Baf⁺



D Mock 700 309



E1B-19K →



FIGURE 13

Mock 700 309

Baf - + - + - +

TfR -----

FIGURE 13E

Fas	-	-	+	+	+	+	+
Shp-1	-	+	-	+	+	+	+
RIDα	-	-	-	-	+	-	+
RIDβ	-	-	-	-	-	+	+

Fas → ——————

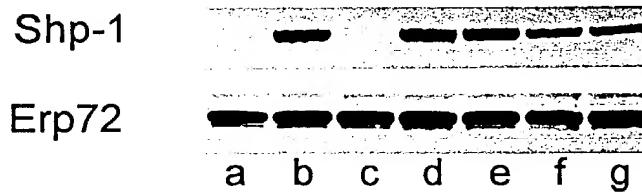


FIGURE 14

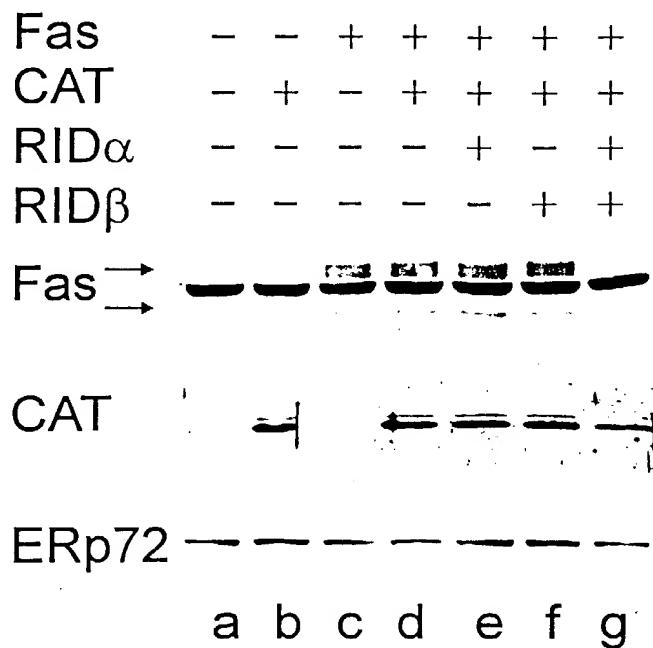


FIGURE 15

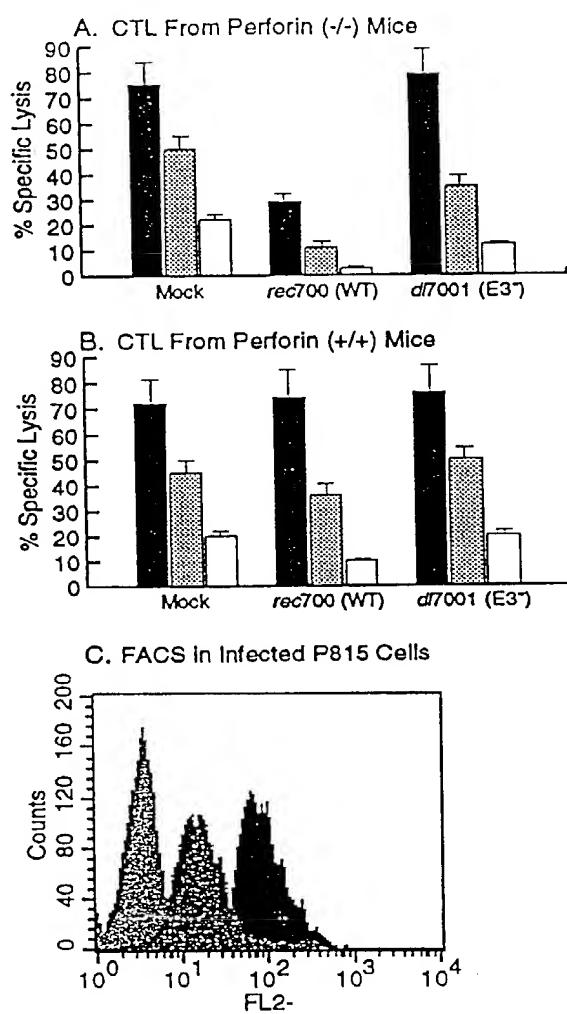


FIGURE 16

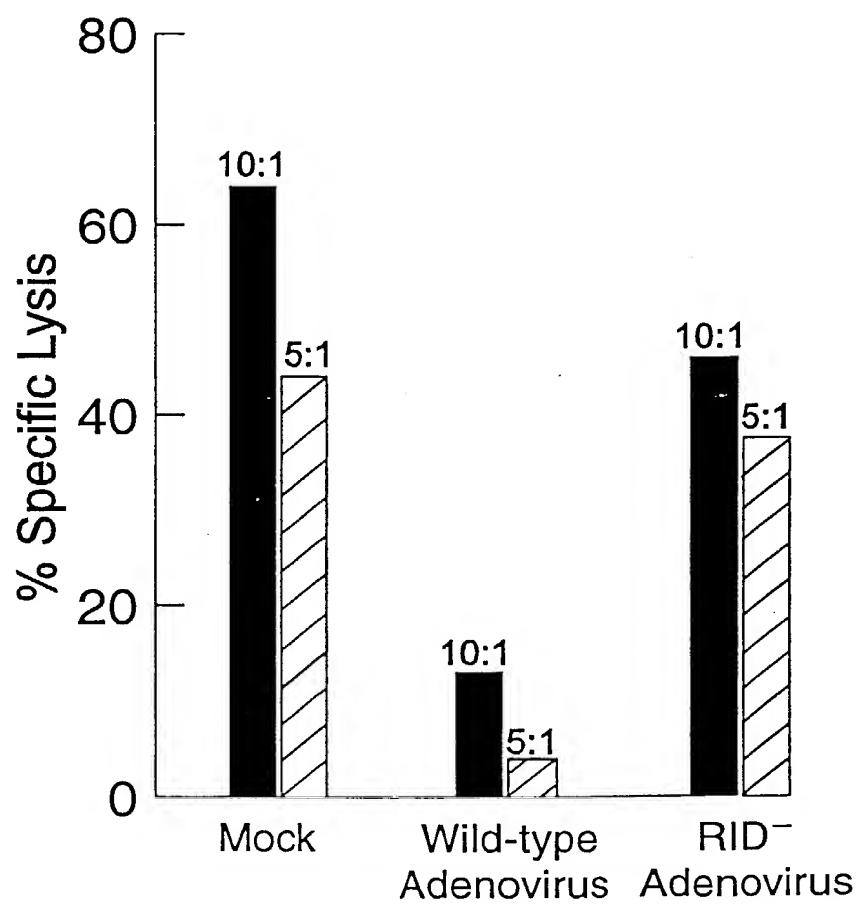


FIGURE 17

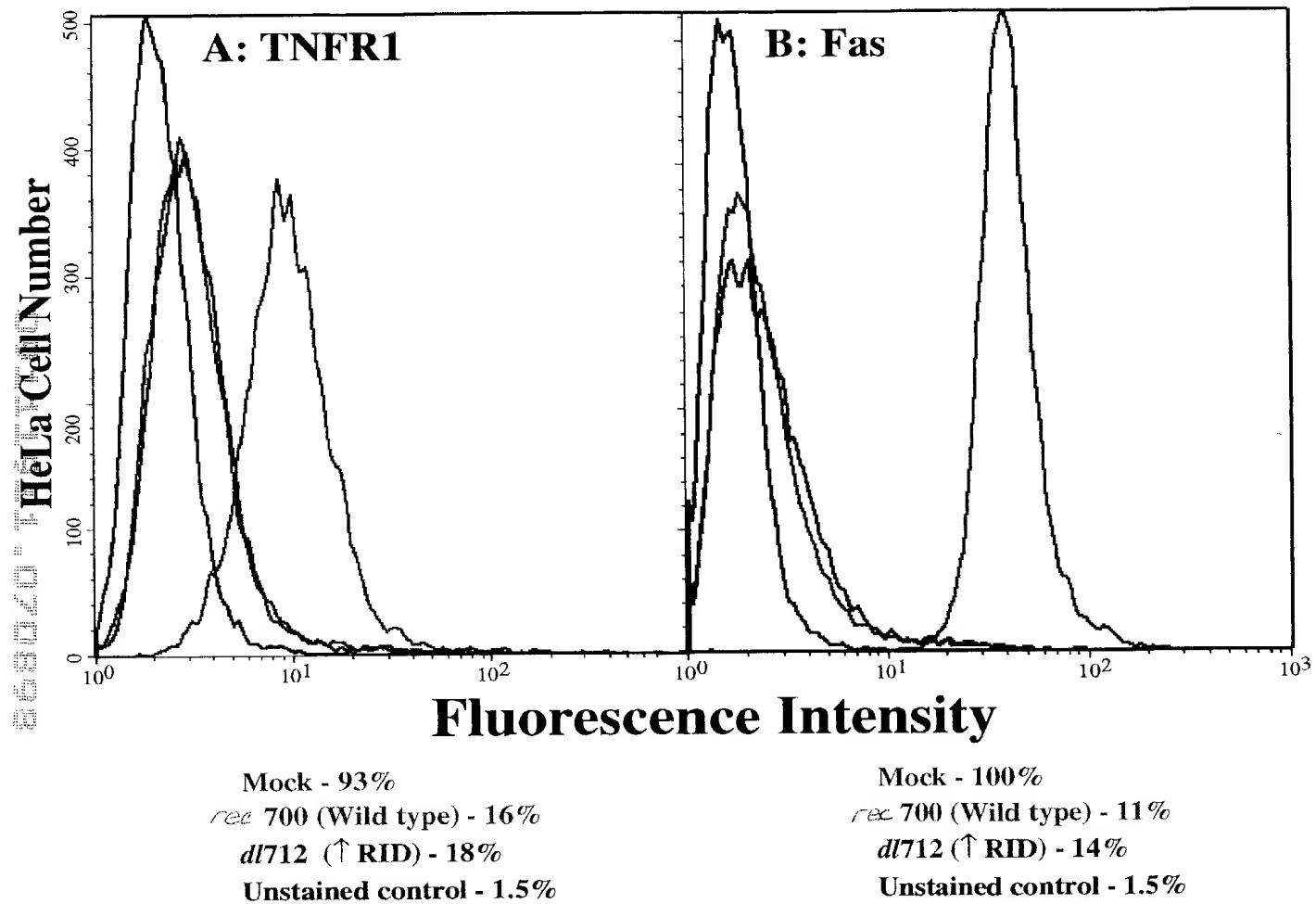


FIGURE 18

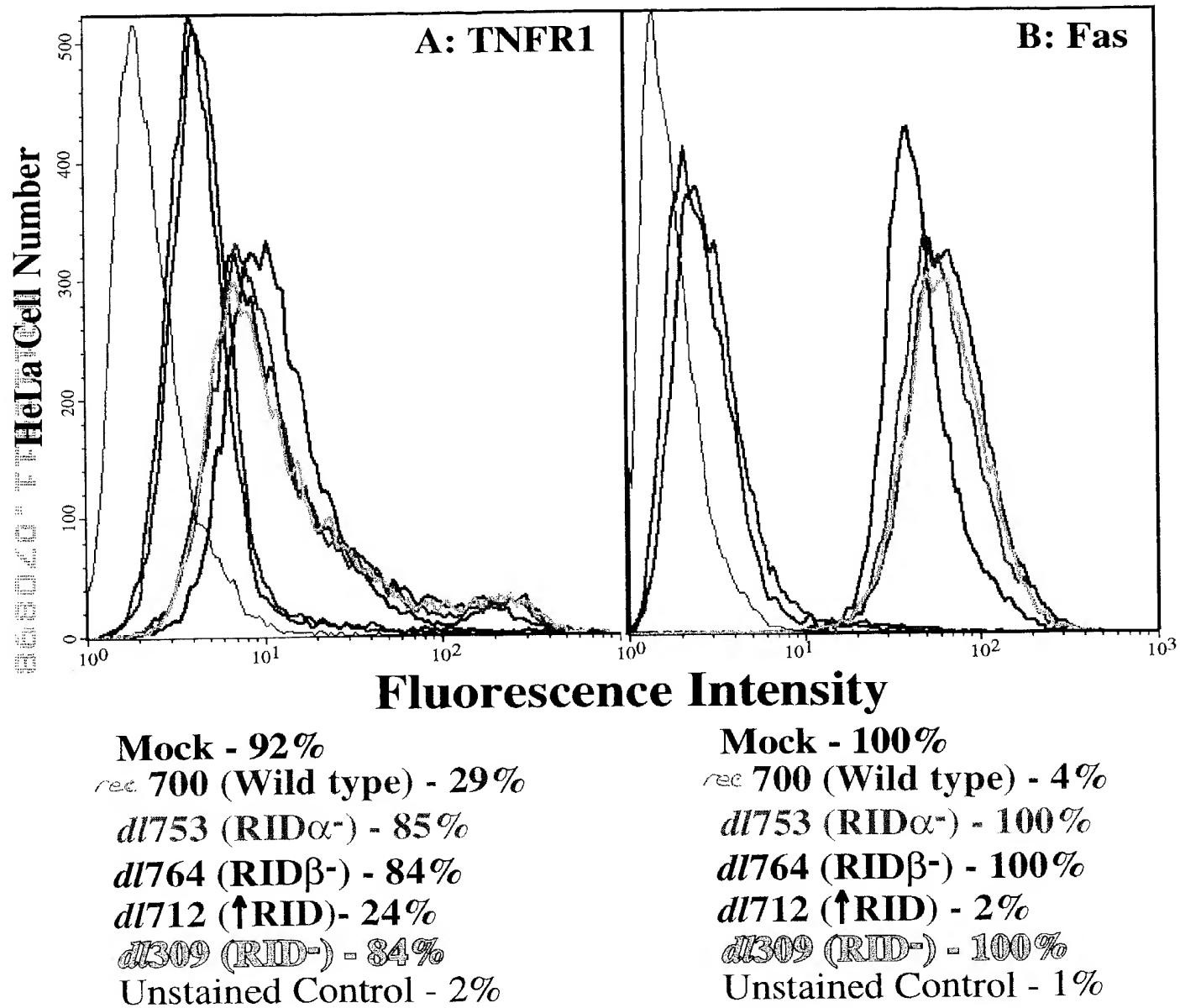
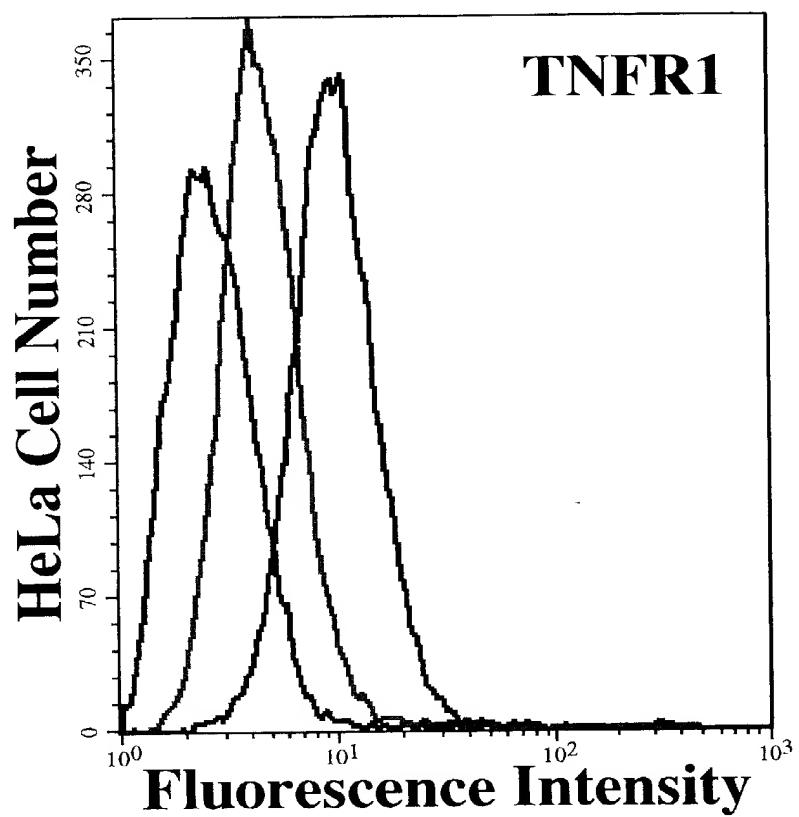


FIGURE 19



Mock - 93%

231-10 (E3⁺ vector) 24 hr. p.i. - 35%

231-10 (E3⁺ vector) 48hr. p.i. - 11%

FIGURE 20

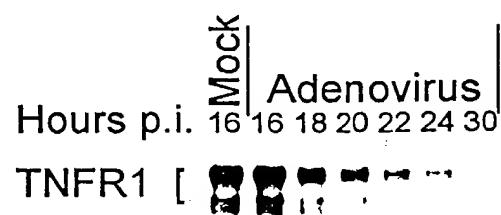


FIGURE 21

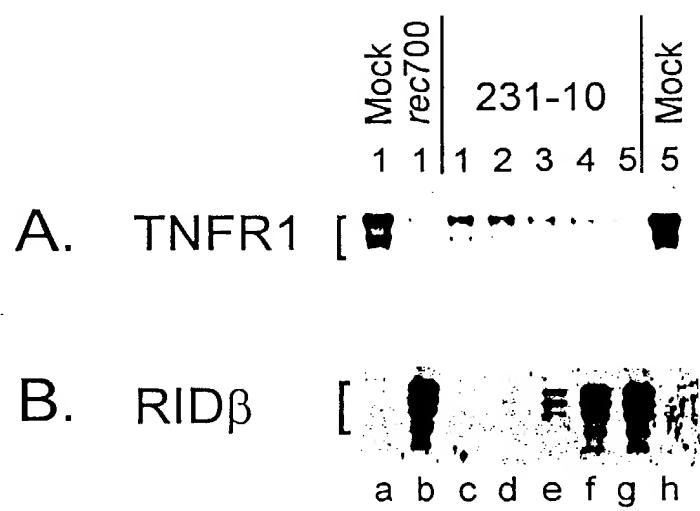


FIGURE 22

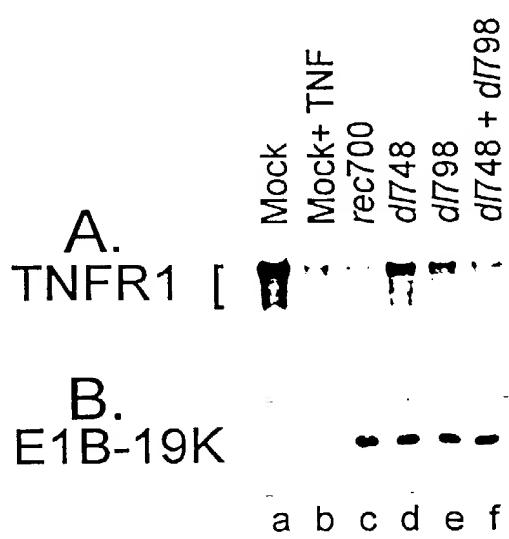


FIGURE 23

35002000 2500 2000 1500

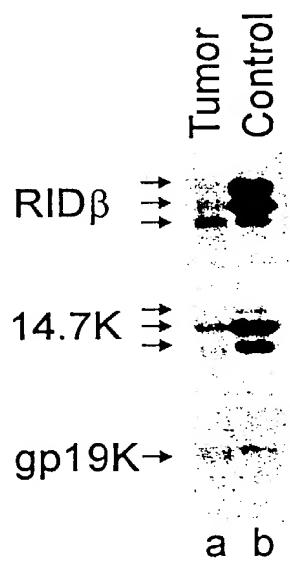


FIGURE 26

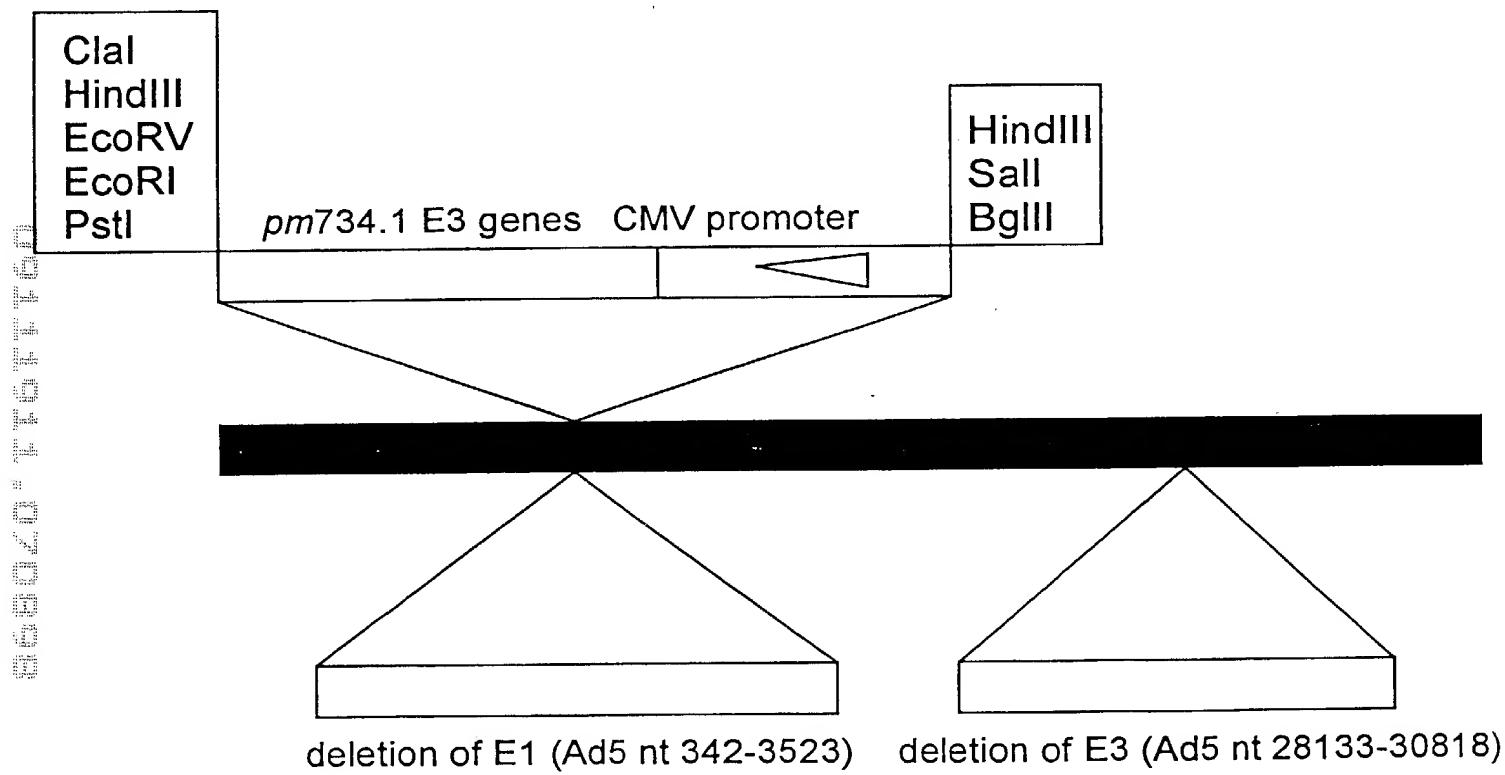


FIGURE 27

FIGURE 28

Eco0109I
 Psp5II
 Sse8647I
 BstYI | | BsgI | BsmI
 agggcttaataagggtcagagatcctcaggcttgcacaagggtgagtgaaatgcagcct
 661 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 720
 tcccaagaattattccacgtcttaggatccaggaaactgttccactcaacttacgtcgga
 tcggttctaccgagtgcgtgatgttgcataaggcgtgtccgggttattactgtcgtag
 721 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 780
 agccaaagatggctcagactaataccattaccgaaaagagggtgtactgggttta
 Bpu10I BsaWI Pf11108I
 ttctgacgcttggggcaacttgcgtactaaggcgtgtccgggttattactgtcgtag
 781 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 840
 aagactgcgaaccaaccgttgaacatcgatccggccacaggccaccataatgacagac
 HaeI HincII
 | HpaI
 gtgactttggcgttaccagacaaaagatacccccggactgtgtcaagttacc
 841 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 900
 cactgaaaccggacgaaatggctgttttatggggaaaacgtgaccacgttcaattgg
 MspAII
 BanII BsiEI
 BsiHKAI EaeI | |
 Bsp1286I EagI | |
 PflMI SacI GdII | |
 atgtcttggagcttgcattgcgtgttgcgtggccgttgcgttgcgttgcgttgcgt
 901 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 960
 tacagaacctcgagaactaagtacgcgacaacgagccggcgcacggcagcagaaatcg
 HaeII BglII
 AlwNII BstYI
 BstAPI XbaI | BseRI
 |||
 aggcgtctgtataattccgtccattttagatctagggtgtcagtcatctcc
 961 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 1020
 tccgcgacgacattataaggcaggtaaagatctagatcccacagtcaatggaggagg
 tgtagattaaaggtagctgatgcgttgcgtggggggggagaagtggggcaggcgtattggc
 1021 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 1080
 acaatctaatttcatcgactaaaggtcaccccccacccctttcaccccgctccgactaaccg
 BsrFI BglII
 NgoAIV BstYI
 | |
 BtsI TaqII
 tggacaaaaggccggcaacaaacttgcgttgcgtggaaacatgcggccggggaaagt
 1081 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 1140
 accctgtttcgccggccgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttca
 DrdII Bsp24I Bsp24I
 | | |
 tgggtggtcatggcatcttgcgtttccagccatgtcaaggtagggatataatgcgt
 1141 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 1200
 acccacaaggtagataaggcaacgtcggttgcgttgcgttgcgttgcgttgcgttgcgttgc
 PstI SspI
 SfcI | |
 ggtaaggatggactgcagaacaccataacagagatgattgcataaccaggctcgga
 1201 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 1260
 ccgattctaccatgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgc
 SspI
 aagatcgcttttcatgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgc
 1261 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 1320
 ttcttagcgaaaaaaatgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgc
 tataatgttttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgc
 1321 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 1380
 atatacagaaaactccggacacctccagcccttgcgttgcgttgcgttgcgttgcgttgc
 ApoI EcoRI SfcI
 | | |
 cagaaaaggatggactgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgc
 1381 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 1440
 gtcttttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgc
 BsU36I BsrDI
 BanI FspI BmrI
 | | |
 tctctgtattgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgc
 1441 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 1500

FIGURE 28

agagacataaagc >ccacggactccatgcgttacgcgtgtttgggtca< ttg

PstI

SfcI SfcI BspMI

| | |

1501 tgaatgaaggcgatgactacagtgcggctgcagatgaggataagggtgacaaatccg
acttacttccgctactgtatgtcactgtctccgacgtctactcttattccactgttttaggc 1560

EaeI
GdII
SacII
MspAII
BsiEI
BstDSI
| |

1561 taaaggcaggtaaactgtgaaagggtggatgcaatctacttcgatgtggcaccggcc
atttcgtccatttgcacactttccaccctacgttagatgaaactacgtctggcggccg 1620

AvaI
SmlI
XhoI
|

1621 aatgttagagcacgcacagaaaagcgcaacaagggtcaataatataagaactcgaggaaatc
ttacatctcgctgcgtgttttcgcgttccaggattatattctttagcttgccttag 1680

EarI ApoI

|

1681 atgtctcatttaatcatactgtaaaagaagagaacatggttcagaccgtccaatctatg
tacagagtaatttagtatgacatttcttcgttaccaaagtctggcaggtagatac 1740

SfcI

RleAI BsiHKAI HaeI HaeIV
XmnI Bsp1286I StuI Hin4I
| | | |

1741 aatttttcattgtgtgggttagcacaatgataggcctatagatgggggtctggcgcg
ttaaaaaagtaacacacccaaactcgttactatccggatctaccccccagaccgcgc 1800

Bsp24I
HaeII
Tth1III
Eco47III
| |

1801 tctgcgtttaggcaacaaaataggccacataataaaggcaaaacataaaggcgttat
agacgcgaaatccgttatttcgttactatccgttatttgcgttatttgcgtatccgcata 1860

Bsp24I
BmrI ApoI
| |

1861 ggaaaaccaccacaagtcaagctcgccaggcattgacaaaggcatgaacttgggtaa
ccttttgggtgttcaggttcagcgccgttactgtttccgtacttgcgtatccgcata 1920

RleAI

BsaWI BtsI BsbI |

1921 atttagggcagatgttagtccggtagcagtgggtgcgtatgggttgcgtatccgttgcgtat
taaatcccgctacaatcaggccatcgtcaccacaacgcgtatcaggcaacaccccgctta 1980

HincII Eco57I
BsrFI BpmI BclI ApoI BtsI
| | | | |

1981 ggtttagggcgttcaactctggggcaggcaagctgaagctgggttgcgtatccgttgcgtat
ccaaactcggccagggttgcgttgcgttgcgtatccgttgcgtatccgttgcgtatccgtca 2040

HaeII HaeII BpmI BclI ApoI
AlwNI BsgI BspGI RleAI
| | | |

2041 gcaggcgctggcagaaatcaggcgcttaacgtccaggaaatgggttgcgtatccgttgcgtat
cgtccgcgaccgttttagtccgcgttgcgttgcgtatccgttgcgtatccgttgcgtatccgtca 2100

BspGI
BpmI RleAI
| |

2101 tataatcttgcgcctggagcatatcccacatagatggaaattgtccaggaaatacaag
atattagaacggcgacccgtatagggtgtatctcatttaacaggccccttatgttc 2160

Tth1III
|

2161 caagcgaaaaatcaaggcatttttcatcaataaaaactgcgtctgctttgtatttg
caaggcgaaaaatcaaggcatttttcatcaataaaaactgcgtctgctttgtatttg 2220

FIGURE 28

gttcgccttta pgtaaaagaaaagtagttatggacgcagacgaaa aaac

HaeII Eco47III | BsrBI BanI

2221 agataaaagtaaggatcacatccaaagcaagcgctgtataaaggcagagcggtggaaacaaaag 2280
tctatttcattccatgtatggttcgacattatcgctcgccacccctgtttc

MsI BsrGI | TatI |

RleAI MsI Tth111II TatI | |

2281 gtgccagttctctaaacactttgtggggccacaacttgtactgtttgtcatgtac 2340
caccggcgtacaagagatttgtaaacaccccccgtgtgaatgacaaaacgagtgatcatg

ApoI |

2341 atggtaatatcgacatccataaaatggaaatttatacataaaaagtttacgatttca 2400
taccattatagctgtaaagtatttaccttaatatgtatttcaaaatgtaaaatgt

StyI BbsI DrdI |

2401 ccttggaaactgtgacatatagtcgttagtgtcacctggctgccaatagcatataca 2460
ggAACCTTCTGACACTGTAATATCAGCAATCACAGTGGACCGACGTTATCGTATATG

HindIII |

2461 gcataacttgcataatttgcattttgtggcataataagctttcatgttctgtggtgcat 2520
cgtatgaacggtaaaacagaaaacaccgcttattatcgaaaatgtacaagacaccacgta

BsmI DraI SwaI BsrDI DrdII | | |

2521 ttataagagtagtgcattcattagcttgcattaaatgtaacattgtcaagctggttcc 2580
aaatattctcatcagtaatcgaagactaaattacattgtaacatgtttcgaccgaccaagg

HaeII SfcI |

Eco47III | PstI BglI |

2581 ttaaactcaaccttttggcagcgctgcagactgcccgaaggcgagcaagcctaaaatc 2640
aatttgagttggaaaaccgtcgacgtctgacggcgttccgctcgatgttttag

DraI BaeI | |

2641 atgtacctcatcttggatgttgcggcccggtttaaaagctgacaataggtacaaacgt 2700
tacatggagtagaacctacaacgggggtcgcacgtttcgactgttatccatgtttgca

BsgI |

Bsu36I BaeI | | MsI |

2701 gctgtcagcaggcgcaaccctaaaggcacagaaggctgtactataagaataacagaatta 2760
cgacgtcgccgttggattccgtcttcacgatcatattttatgtttcaat

HindIII |

2761 caagagtaaggataaccccgaccccaattccagaaaaattagacaacagctgttagttac 2820
gttctcattctattggggctgggttaaggctttatctgttgcacatctcaatg

PacI |

2821 ttgaatttgcataactttaattaaaaatccagaccccgcaaaatgtttttgacc 2880
aacttaacgagtatataatttttaggtcggtggcgatgtttacgaaaaactgg

BanII BsiHKAI Bsp1286I Hin4I | | |

Hin4I SacI BplI BplI | |

2881 tgagttccggagttggactcacccctgtttggaaaaatggagtaatgtctggttac 2940
actcaaggccctcaactcgagttggaggacaaaaccccttaccctcattacagaccaatg

SfcI BsaWI BspMI | | |

RleAI Bsp10I Bsp1286I PinAI SunI AarI | | |

FIGURE 28

FIGURE 28

3661 aaccgaaggcac ccctcaataaaattgttagagttccatgcctccggag 3720
 -----+-----+-----+-----+-----+-----+-----+-----+
 ttggcttccgtgctttagggatattaaacatctcaaggttacggaggcctcgccggag
 PstI EaeI
 BpII | GdII
 Tth111I SfcI | Hin4I EarI BsrBI |
 | | | |
 3721 cgaggacgagggtctgcagagtttaggatgcctgacggggcgtaatgaagagcggccagc 3780
 gtcctgtccagacgtctcaatcttagcgactgccccgatattacttcgcgggtcg
 BseRI
 HaeII BsaI BspEI | | | |
 | | | |
 3781 gccgcccgtatgtccgtccggacggagaccaagagaggagctaccgactcg 3840
 cggcgctagactttacagggcaggcctgctgttctccctcgagttggctgacgag
 BpI SmaI BamHI
 | |
 3841 gttgagctgaatacctcgccctctgatttcaggtgagttataccctgccccggggGGAT 3900
 caactcgacttatggagcggagactaaaagtccactcaatatggacgggccccCCTA
 AflII SmlI
 HindIII |
 BanI | | |
 BanII | | | NheI
 BsiHKAI | | | Bsp24I |
 Bsp1286I | | | DraI | |
 Hin4I SacI | KpnI | PmeI | | SfcI
 | | | | BsaII | Bsp24I
 3901 CCGAGCTCGGTACCAAGCTTAAGTTAACGCTAGCCAGCTGGTCTCTATAGTGAG 3960
 GGCTCGAGCCATGGTTCGAATTCAAATTGCGATCGGTGAAACCCAGAGGGATATCACTC
 BanII
 BsiHKAI
 Bsp1286I
 SacI
 VspI BtsI
 | |
 3961 TCGTATTAATTTCGATAAGCCAGTAAGCAGTGGGTCTCTAGTTAGCCAGAGAGCTCTGC 4020
 AGCATATAAAGCTATTGGTCATTGGTCAACCAAGAGATCAATCGGTCTCTGAGACG
 EcII
 |
 4021 TTATATAGACCTCCCACCGTACACGCCCTACCGCCCATTGCGTCAATGGGGCGGAGTTGT 4080
 AATATATCTGGAGGGTGGCATGTGCGGATGGGGTAAACGCACTTACCCCGCTCAACA
 AatII
 BanI BsaHI
 | |
 4081 TACGACATTGGAAAGTCCCGTTGATTTGGTGCACAAACAAACTCCCATTGACGTCAA 4140
 ATGCTGTAAAACCTTCAGGGCAACTAAACACGGTTTGTGTTGAGGGTAACTGCAGTT
 TatI
 |
 4141 TGGGGTGGAGACTGGAAATCCCCGTGAGTCACACGCCATTGATGTACT 4200
 ACCCCACCTCTGAACCTTAGGGCACTCAGTTGGCAGTGGTGGGTAACTACATGA
 BstDSI
 NcoI
 StyI
 MsII | |
 | | | |
 4201 GCCAAACCGCATCACCAGGTAAATAGCGATGACTAAATACGTAGATGACTGCCAAGTAG 4260
 CGGTTTGGCGTAGTGGTACCATATTACGCTACTGATTATGCATCTACATGACGGTTCACT
 TatI BmrI Bsp24I BglI
 | | | |
 4261 GAAAGTCCCATAAGGTATGTTACTGGCATAATGCCAGGGGGCATTACCGTCATTGA 4320
 CTTTCAGGGTATTCCAGTACATGACCGTATTACGGTCCGGTAAATGGCAGTA
 Bsp24I AatII
 | |
 NdeI
 |
 TatI
 |
 BglI
 |

FIGURE 28

4321 CGTCAATAGGGG ACTTGGCATATGATACTTGATGTAUTGCCAAGTG TTTT
 GCAGTTATCCCCGCATGAACCGTATACTATGTGAUTACATGACGGTCACCGTCAA 4380

4381 ACCGTAATAGTCACCCATGACGTCAATGGAAAGTCCCTATTGGCGTTACTATGGGAA
 TGGCATTATCAGGGGGTAAC TGCA GTTACCTTTCAGGGATAACCGCAATGATA CCCTT 4440

4441 CATA CGTCATTATGACGTCAATGGCGGGGTCGTTGGCGGTCA CGCAGGCGGGCAT
 GTATGCAGTAATAACTGCAGTTACCCGCCAGCACCCGCCAGTCGGTCCGCCGGTA 4500

4501 TTACCGTAAGTTATGTAACCGGAACCTCCATATATGGCTATGAUTAATGACCCGTAA
 AATGGCATTCATAACATTGCCCTTGAGGTATATACCGATACTTGATTACTGGGCATT 4560

4561 TTGATTACTATTAATAACTAGTCATAATCAATGTCAACCGGTATATCTGGCCCGTACAT
 AACTAATGATAATTATIGATCAGTTAGTTACAGTTGCGCATATAGACCGGCATGTA 4620

4621 CGCGAAGCAGCGAAACGCCATAACCTAACGAGATTCTTCATGCAATTcaagcttgcg
 GCGCTTCGTCGCGTTTGC GGATTGGGATTCGTCTAAGAAGTACGTTAAGttcgaaacgc 4680

4681 acagatcttggcggtggcttaagggtggaaagaatataaggtggggctttagtag
 tgtctagaacccgcaccgaattccacccttcttatatccaccccaagaatacatc 4740

4741 ttttgtatctgtttgcagcggccgcgcattgagccactcggttgcggaaac
 aaaacatagacaaaacgtcgctggcgccggcggtactcggtttgagcaactaccc 4800

4801 attgtagctcatattgacaaacgcgcattccccatggccgggtgcgtcagaatgt
 taacactcgagtataactgtgcgcgtacgggggatcccgccccacgcagttcac 4860

4861 atgggctccaggcattgtggcgcccggtccgcggccaaactctactacccgttgc
 taccggaggcgtactaccaggcgccggcaggacggggcttgcggatgtggatgg 4920

4921 Tth111I PstI Eco57I SfcI AlwNI
 Hin4I Bsp24I ||| EcII MspAII|PstI
 MmeI ||| gagaccgtgtctggaaacgcgcgttggagactgcaggcctccgcggcgttca
 ctctggcacagaccccttgcggcaacctctgacgtcgaggcggcggcgaatcg 4980

4981 SacII BanII
 MspAII Bsp1286I BstAPI
 BstDSI || Bpu10I || BtsI
 gcaaccggccggggattgtgactgactttgttgcggccgttgcggaggcggcgg
 cggtggcggccctaacactgactgaaacgaaaggactcggcgaacgttgcgtcac 5040

BsgI

FIGURE 28

Tth111II Ec HincII MunI
 5041 gttcccggttcatcgcccgcatgacaagggtacggctttggcacaattggattct 5100
 cgaaggcaagttaggcggcgctactgttcaactgcccagaaaaccgtttaacctaaga

SmaI MspAII BspMI
 AvAI MmeI PvUII BstYI
 5101 ttgaccggaaacttaatgtcggttcagcagctgtggatctgcgccagcagggttct 5160
 aactggcccttgaattacagcaaagagtcgtcgacaacctagacgcggcgtccaaaga

BglI Eco57I DraI Tth111II XcmI
 5161 gcctgaaggctcccccctccatcggttaaaacataaaaaaccagactc 5220
 cgggacttccgaaggagggggttacccaaattttgtatttttggctgaga

BsaBI Bsp24I Tth111II BssHII
 5221 gttggatggatcaagcaagtgtctgtttattttaggggtttgcgcgcgg 5280
 caaacctaaaccttagttcggttacagaacgacagaataatccccaaacgcgcgcgc

AhdI
 MspAII
 HaeIVI
 Hin4I
 5281 TagII Eco0109I
 SmaI BsiEI PspSII PflMI
 AvAI BsaI PspSII
 tagggccggacagcggtcggtcggtcggtcggtattttccaggacgtgg 5340
 atccggccctggtcgcccagacccaggacacataaaaaaggctctgcacc

BsmBI
 5341 taaagggtgactctggatgttcagatacatggcataagccgtctgggtggaggtag 5400
 atttccactgagacactacaaggctatgttacccgtattccggcagagacccacccatc

PstI
 BtsI SfcI BsbI Pfl1108I
 5401 caccactgcagagcttcatgtcggtgtttagatgtatccagtcgtcaggag
 gtggtacgtctcgaaatcgacgcggccaccacaatctacttaggtcagcatcgccctc

HaeII Bani StyI
 Eco47III Bani Eco0109I
 5461 cgctggcggtggcctaaaaatgtcttcagtagcaagctgattggcaggccc 5520
 gcaaccgcaccacggattttacagaaagtcatcgactaacggtcccggtccggg

TaqII BsaAI
 5521 ttggtaagtgtttacaaagcggttaagctggatgggtgcatacgtgggatatgaga 5580
 aaccacattcacaatgttgcacccatccgtatgcacccctatactct

NsiI
 5581 tgcatctggactgtatgttaggttgcataatccctccgggattc 5640
 acgttagaacatcataaaatccaaccgatacaagggtcggtatagggaggcccataag

BciVI
 BsiHKAI
 Bsp1286I
 BseSI
 ApaLI
 DrdII BsaWI ApoI
 5641 atgttgcagaaccaccacacgtgtatccgggtgcactggaaatttgcattgtac
 tacaacacgtttgggtgttcacataggccacgtgaacccttaaacagtcatacg

BsmBI BsaHI BsmI
 5701 tttagaaggaaatgcgtggaaacttggagacgcgcctgtgacccatgttccatg 5760
 aatttcccttacgcaccccttgcacccatgtggaaactggagggtctaaaaggta

FIGURE 28

ApaI
 BanII
 Bsp1286I
 BstDSI
 BmgI |
 BstXI |
 BseSI |
 MsII |
 BsrDI |
 cattcgccataatgatggcaatggggccacgggcggcggctggcgaagatattctg
 5761 -----+-----+-----+-----+-----+-----+-----+-----+ 5820
 gtaaggcaggattactaccgttaccgggtgcgcgcggaccgcgttctataaaagac

 MsII |
 HaeI |
 ggtactaactacgtcatagtgtgtccaggatgagatcgcataggccattttacaaag
 5821 -----+-----+-----+-----+-----+-----+-----+-----+ 5880
 cctagtgttgcgttatcaacacaagggtctactctagcgtatccggtaaaaatgtttc

 EcII | BanI |
 DrdII |
 cggggcgagggtgccagactgcggtataatggccatccggccaggggcgtagtt
 5881 -----+-----+-----+-----+-----+-----+-----+-----+ 5940
 gccccgcctccacggctgtacgcctattaccaaggtagggccgggtccccgcataat

 AccI |
 ccctcacagatttgcattttccacgcggctttagttcagatgggggatcatgttacactgc
 5941 -----+-----+-----+-----+-----+-----+-----+-----+ 6000
 gggagtgtctaaacgtaaagggtgcgaaactcaagttacccctatgtacagatggacg

 BspMI |
 MspAII |
 PvuII |
 gggcgatgaagaaaacggttccgggttagggagatcggatggaaagaaaggcagggttc
 6001 -----+-----+-----+-----+-----+-----+-----+-----+ 6060
 ccccgctacttttgcacggccatccctctagtcgaccctttcgatccaag

 ApaI
 BanII
 Bsp1286I
 MspAII |
 BsrFI |
 BmgI |
 PvuII |
 HgiEII |
 BseSI |
 ctgaggcactgcgacttacccgcgggtggccgtaaatcacacattaccgggtgc
 6061 -----+-----+-----+-----+-----+-----+-----+-----+ 6120
 gactcgacgtgaatggcgtggccacccggcatttgtggataatggccacg

 MspAII |
 PvuII |
 PstI |
 AceIII |
 SfcI |
 Bpu10I |
 aactggtagttaaagagagctgcgcgttccctgagcaggggccacttcgtta
 6121 -----+-----+-----+-----+-----+-----+-----+-----+ 6180
 ttgaccatcaattctctcgacgtcgacggcgttagggactcgccccgggtgaagcaat

 NspI |
 NspI |
 EciI |
 HaeII |
 agcatgtccctgactcgcatgtttccctgaccaaattccggccagaaggcgtcgccgccc
 6181 -----+-----+-----+-----+-----+-----+-----+-----+ 6240
 tcgtacaggggactgagcgtacaaaaggactggtttagggcgttcccgagcgggg

 BstAPI |
 BsaI |
 EciI |
 agcgatagcgttcttgcacggaaaggcaagtttcaacgggttaggacgcgtccggcgt
 6241 -----+-----+-----+-----+-----+-----+-----+-----+ 6300
 tcgtatcgtaagaacgttccctcggttcaaaaagggtccaaactctggcaggcggcat

 NspI |
 SphI |
 TaqII |
 Tth111II |
 BstEII |
 RleAI |
 AcelIII |
 AarI |
 ggcatgttttgcgttgcacggaaaggcgttccaggcggtccacagctcggtcacctgc
 6301 -----+-----+-----+-----+-----+-----+-----+-----+ 6360
 ccgtacggaaactcgcaactgggtcgtaagggtccgcagggtgtcgaccgtggacg

 BspMI |
 BseRI |
 tctacggcatctcgatccagcatatctccgtttcgccgggtggggcggttcgt
 6361 -----+-----+-----+-----+-----+-----+-----+-----+ 6420
 agatggccgttaggtcgatagaggagcaaggcggccacccggccaaagcgaca

 BspGI |
 BsiHKAI |
 Bsp1286I |
 BstDSI |
 Eco0109I |
 BcgI |
 Psp5II |
 acggcagtagtcgggtgcgtccagacggccagggtcatgtttccacggcgcagg
 6421 -----+-----+-----+-----+-----+-----+-----+-----+ 6480

FIGURE 28

5'-----3' 3'-----5'

tgccgtcatcg yagcaggtctgccggtcccagtcacagaaagggtgcc CCCC
 BcgI HaeI
 | MscI
 | BssHII EaeI
 |
 6481 tcctcgtagcgtagtctgggtcacggtaaggggtgcgtccggctgcgcgtggca 6540
 aggacgtcgcatcagaccaggacttccacgtccgaggcccgaacgcgcgaccgg
 BsrFI
 HaeII
 BbsI
 Eco47III
 SmI Bce83I ||| Eco57I
 | ||| |
 6541 gggtcgcttgggtctgtgtgtcaagcgctccggcttcgcctcgcg 6600
 cccacgcgaactccgaccaggacgaccacttgcgcacggccagaacgcggacgcga
 DrdI SacII
 EaeI BstDSI ||| MspAII ||| BssHII
 GdII StyI ||| BspGI BstDSI ||| StyI
 | | | | | | |
 6601 cggccaggtagcattgaccatgggtcatagtccagccctccgcggctggcccttgg 6660
 gccgtccatcgtaactggtaccacagatcaggtcggggaggcgccacgggaacc
 BseRI
 BssSI
 HaeII
 BsaHI |||
 NarI |||
 StyI Bani ||| BtsI
 | ||| |
 6661 cgccgacgttgccttggaggaggccgcacgagggcagtgacactttgaggcgt 6720
 gecgtcgaacggAACCTCCGCGCGTGTCCCCGTACGTCTGAAACTCCGCA
 BsgI Hin4I Eco0109I
 | | |
 6721 agagttggcgcgagaaataccgattccggggagtaggcattccgcggcaggccccgc 6780
 tctcgaaccgcgtctttatggtaaggccctatccgtaggcgccgtccggggcg
 EaeI GdII
 | |
 BanII |||
 BsiHKAI |||
 Bsp1286I |||
 SacI |||
 BsaI XcmI ||| SexAI
 BsmI BssSI ||| |||
 6781 agacggtctcgcatccacgagccaggtagctctggcgttcggggtaaaaaccagg 6840
 tctgccagagcgtaagggtcggtccactcgagaccggcaagccccagttttggtcca
 Hin4I
 BsrFI |||
 | |
 6841 ttccccatgtttttagcggttttacctctgggttccatgagccgggtgtccacgct 6900
 aagggggtacaaaaactacgcaaaagaatggagaccaaggtagtcggccacagggtcg
 Bce83I
 BsrBI |||
 | |
 BstZ17I HaeI SmlI |||
 AccI ||| StuI XhoI |||
 || | | | | |
 6901 cggtgacaaaaggctgtccgtccccgtatacagacttggagaggcgttcgagcg 6960
 ggcactgtttccgacaggcacagggcatatgtctgaactctccggacaggagtcgc
 SacII
 MspAII
 BstDSI |||
 BseRI |||
 | | |
 6961 gtgttcccggtccctcgatagaaactcgaccactctggagacaaaaggctcggtcc 7020
 cacaaggcgccaggaggcatatcttggacttccggtggagactctgtttccgagcg
 HaeI BsaXI BsiEI BpmI
 | | | |
 7021 aggcacgacgaaaggaggctaaatggggggtagcggtcggttcactaggggtcca 7080
 tccgtcgcttcctcgattcaccctccatcgccagcaacaggtatccccaggt

FIGURE 28

NspI
 BbsI
 PshAI
 AflIII
 BspLU11I
 EarI
 7081 ctcgctccagggtgtgaagacacatgtcgccctttcgcatcaaggaagggtattggtt 7140
 gagcgagggtcccacacttctgtgtacagcggagaagccgtagttccactaacc

 BsaAI
 PmlI
 HaeI
 Eco57I
 7141 ttaggtgttagggcacgtgacgggtttctgaagggggctataaaagggggtgggg 7200
 acatccacatccgggtcactggcccacaaggactccccatatttccccaccccc

 PflMI
 MspAII
 ScaI
 EarI
 PvuII
 TatI
 7201 cgcgttcgttctactctttccgtatcgctgtctgcgaggcccagctgttgggg 7260
 gccaaggcaggagttagaaaaaggcgtagcagacagacgtccggcgtcacaacccact

 actccctctgaaaaggcgccatgacttctgcgctaagattgtcagttccaaaaacagg
 7261 tgagggagactttcgccgtactgaagacgcgattctaacagtcaagggtttgtcc 7320

 SacII
 MspAII
 EaeI
 BseRI
 BstDSI
 GdII
 7321 aggattgtatattcacctggccgcggatgccttggggccatccatctgg 7380
 tcctaaactataagtggaccggccactacggaaactccacccggtaggttagacca

 HindIII
 MmeI
 7381 cagaaaagacaatttttgtgtcaagcttggcaacacgaccggtagaggcggtgg 7440
 gtctttctgttagaaaaacaacagttcgaaccaccgttgcggcatctccgcacc

 BssHII
 BsgI
 BsiEI
 EaeI
 PvuI
 GdII
 NruI
 StyI
 7441 acagcaacttggcgatggagcgagggtttttgtcgatcgccgcgtccgg 7500
 tgcgttgaaccgtacactcggtccaaacaaaaacagcgtagccgcgaggaacc

 BsaAI
 BssHII
 7501 cccgcatgttttagctgcacgtattcgccgcacgcaccggattcgggaaagg 7560
 ggcgtacaaatcgacgtgcataaggcgcgttgcgtggcgtaagcccttctgcacc

 BsiHKAI
 Bsp1286I
 BseSI
 ApaLI
 BstAPI
 DraIII
 Bsp1286I
 SexAI
 BmgI
 BseSI
 BanI
 SacII
 MspAII
 BstDSI
 HincII
 Tth111I
 7561 tgcgtcgccggcaccagggtcacgcgcacccgggttgcagggtacaaggtaa 7620
 acggcagcagccgtggccacgtgcgcgggtggcgccacacgtccactgttccagg

 BsiEI
 EaeI
 EagI
 GdII
 BsgI
 HaeII
 BspGI
 NotI
 7621 cgctgggtggctaccttccgcgtaggcgctcggtggtcacgcaggcgcccttgc 7680
 gcgaccaccatggagaggcgcatccgcgagcaaccaggcgttccggcgccggaaac

 BsmBI
 BstDSI
 7681 gcgagcagaatggcggttaggggtctagctgcgttcgcgtccgggggtctgcgtc 7740
 cgctcgatccgcgtcccgccatccgcgagcaggcccgacgcagggtcc

FIGURE 28

SmaI | BssHII
 Aval |
 7741 taaagacccggcagcaggcgccgtcgaaagtatgtctatcttgcacccatcgatc
 attcctggggcccgctcgccgcgcagttcatcagatagaacgttagaacgttcagat 7800

BstDSI
 Eco0109I |
 Psp5II NcoI
 HaeII BssHII |
 BssHII |
 7801 ggcctgctgccatgcgcggccgaagcgccgtcgatgggtgagtgccggggacccc
 cggacacggatcgccgcgttcgcgcgcgacatacccaactacccctgggg 7860

PflMI
 TaqII | NspI | Hin4I
 | |
 7861 atggcatgggtgggtgagcgccggaggcgatcgccgaaatgtcgtaaacgttagagg
 taccgtaccccacccactcgccctccgcattgtacggcgatccatcgatctccc 7920

SacII
 BanII | MspAII |
 Bsp1286I BplI | BstDSI || BssHII |
 | | |
 7921 gctctctgaggatccaaagatgttagggtagcatcttcaccgcggatgtggcgca
 cgagagactcataagggttctatacatccatcgtagaagggtggcgctacgaccggcgt 7980

BsaAI | BseRI | TaqII
 | |
 7981 cgtaatcgatagttcgatcgaggaggcgaggatcgccggaccggatgtggcg
 gcattagcatatcaagcagcgtccctcgctccctccagccctggctccaaacgtggcc 8040

MmeI | NspI | Eco57I
 BbsI | MmeI |
 8041 gctgtctcgaaagactatcgctgaagatggcatgtggatgtggatgtatggtg
 cgacgagacgagcctctgatagacggacttaccgtacactcaacctactataccaaac 8100

BsaI |
 BbsI BsaHI |
 8101 gacgctgaaagacgttgaagctggctgtgagacactaccgcgtacgcacgaaaggagg
 ctgcgacccctcgcaacttcgaccgcagacactctggatggcgactgtgtccctcc 8160

BsgI | AceIII | BspMI
 HincII | BstEII | DrdI |
 | | |
 8161 ctagggatcgccgcgacttgcgttgcggatcgccgtgacctgcacgtctaggcg
 gcatccctcgccgtcgaacaactggtcgagccgcactggatggcgactgtccgtca 8220

BspGI |
 |
 8221 agtcagggtttctgtatgtcataacttacccgtttttccacagctcg
 tcagggtccaaaggaactactacagtatgaataggacaggaaaaaaaagggtgtcgacg 8280

AceIII | Scal |
 | EarI | TatI |
 | | |
 8281 gggtgaggacaaactttcgccgtttcccgactcttggatcgaaaccgtccgc
 ccaactccgtttgagaagcgccagaaaggcatgagaacctgcgttggcgccgg 8340

NspI | HincII | BglI |
 | | |
 8341 ccgaacggtaagaggcttagatgttagaactgggtgacggcctggtagggcg
 ggcttgcatttcggatcgatcttgcaccaactggccggaccatccgcgtcgatgg 8400

TagII |
 RleAI |
 |
 BsaWI | |
 BglI BspEI | |
 | | |
 8401 ttctacgggtagcggtatgcctgcggccgttccggagcgagggtgggtgagcg
 aaagatgcccattcgccatcgacggacgcgcggaaaggcctcgatccacccactcg 8460

EcII |
 |
 aggtgtccctgaccatgacttggatgttgcgttgcgtcgatccgc

FIGURE 28

FIGURE 28

FIGURE 28

BanII | HaeII |
 BsaWI | Bsp1286I BsaHI | |
 Bsp1286I | BmgI | NarI | |
 BspEI | BseSI | BanI | |
 | | | | | | | |
 9781 tagggggggctccggaccggccggagagggggcaggggcacgtcgccggcgccggcgccg 9840
 atccccccgaggcgtggcgccctctccccgtccccgtcagccggcgccgcccc
 AlwNI BssHII | |
 caggagctgggtgcgcgcgttaggttgcgtggcaacgcgacgcggcggttgcgtc 9900
 9841 gtcctcgaccacgacgcgcacatccaacacgaccgcttgcgtgcgcggccaactagag
 ApaI
 BanII
 HaeII | Bsp1286I
 BsaHI | BmgI |
 NarI | BseSI |
 BanI | BbsI | | SmlI |
 | | | | | | | |
 9901 ctgaatctggcgctctgcgtgaagacgacggggccggtagcttgagcctgaaagagag 9960
 gacttagaccggagacgcacttgcgtccccggccactcgaactcgacttttc
 Bce83I | HincII | BsgI |
 ttcgacagaatcaatttcgggtcggtacggcgccctggcgaaatctctgcacgtc 10020
 9961 aagctgtcttagttaaagccacagcaactgcgcggaccgcgttttagaggacgtcgac
 BsmBI | HaeIV | EaeI | BgII
 Hin4I | GdiII | EarI | BstYI |
 tcctgagttgtcttgcataaggcgatctggccatgaactgctcgatcttcctggag 10080
 10021 aggactcaacagaactatccgctagagccggacttgcgcggacttagagaaggaggac
 BstDSI |
 BpmI MmeI | AceIII |
 | | | |
 10081 atctccgcgtccggctcgctccacgggtggcgccgaggctgtggaaatgcgggcatgag 10140
 tagaggcgaggccggcggacttgcgtccaggacttacgcgggtactc
 HaeI | AccI |
 StuI | SfcI |
 | | | |
 10141 ctgcgagaaggcggttggccctccctgtccagacgcggctgttagaccacgc 10200
 gacgttccgcactccggaggaggacttgcgcgcacatctgggtcgccggaaag
 BsaAI |
 PmlI |
 BanII |
 BsiHKAII |
 Bsp1286I |
 BssHII | AarI | BspMI | SacI |
 | | | | | |
 10201 ggcatcgccggcgcatgaccacactgcgcgagattgagctccacgtgcgggcaagac 10260
 ccgtacgcggccgcgtactggtgacgcgcctactcgagggtgcacggccgcttgc
 HaeII |
 BbsI | AlwNI |
 | | | |
 10261 ggcgtatttcgaggcgctgaaagaggtagttgagggtggcggtgtttctgcac 10320
 ccgcatcaaagcgccgcgacttctccatcaactcccaccaccacacaaggctg
 SmlI
 EcoRV | HaeI |
 Tati | Bce83I | StyI | StuI |
 | | | | | |
 10321 gaagaagtacataacccagcgtcgcaacgtggattcgatccatcccccaaggc 10380
 cttttcatgtattgggtcgacgcgttgacactatagggggtccggagtt
 BstDSI |
 NcoI |
 StyI Pfl1108I |
 HaeII | HaeI | BstDSI | BmrI | BssHII |
 | | | | | | | |
 10381 gcgctccatggccgttagaaggccacggcaagttggaaaaactggagttgcgc 10440
 cggaggatccggaggcatttcaggtgcgttcaactttgaccctcaacgcgcggct
 HincII |
 HpaI | BanII |

FIGURE 28

FIGURE 28

catcatcgaaatcgaaaatggccgtgaagaagaagaggaaggaggacg

HaeII
BsaHI
NarI
BstAPI EciI GdiII BanII EarI
atctttgcatacgctggggggagttggccgtagggtggccctttcc 11220
tagagaacgtagatagcgacgcccggccctaaaccggcatccaccggggagaagg

MslI Eco57I
tcccatgcgtgtgaccccgaaagccctcatcgctgaagcaggctagggtggccgacac 11280
agggtacgcacactggggcttcggggagtagccacttcgtcccgatccaggcgctgttg

BspMI EcoNI Ahdi
MsI HaeIV
BsgI HaeI AarI AccI Hin4I
gctcggtataatggccgtgcacctgcgtgagggttagactggaaagtcatccatgtc 11340
cgcgagccgattataccggacgtggacgcactccatctgacccatcgtaggtacag

HaeI MscI
BsbI EaeI BsgI
cacaaggcggtgtatgcgcgcgtttagtggtaagtgcagggtggccataacggacca 11400
gtgtttcgccaccatacgccggcacaactaccacattacgtcaaccggattgctgtt

BsmBI BanII Bsp1286I AvaI
HincII BstEII SacI SmlI XhoI
HpaI BstEII Bsp1286I SacI
gttaacggctggtgaccggctgcgagagctcggtgtacctgagacgcgagtaaggcc 11460
caattggccagaccactggccgacgctctcgagccatggactctgcgtcattggga

BsaAI AlwNI
SnaBI SexAI PflMI BciVI
cgagtcaaatacgtagtcgttgcaggccaccaggactggatcccacaaaaatg 11520
gctcagtttatgcatacgttgcggccatgaccatagggtggtttac

EaeI BanII BglII
GdiII Bsp1286I BstYI
cggccggccgtggcgtagagggggccagcgtaggggtggccggggctccggggcagatc 11580
ggcccccggcaccgcacatctcccggtcgatcccacccggcccccggccatcg

BsrFI EcoRV MmeI BspGI MslI NgoAIV
ttccaacataaggcgatgatccgtatgttgcacccggatccggatgtggccggc 11640
aagggtgtattccgtactataggcatctacatggactgttaggtccactacggccggc

MspAII BssHII FspI BstAPI
ggtgggtggaggcgccggaaagtgcggacgcgggttccagatgttgcgcagcgccaaaa 11700
ccaccacccctccgcgcgccttcagcgccctgcgcggcaaggctacaacgcgtcgccgtttt

BstDSI NcoI
StyI BsrFI BssHII
BsiHKAI EaeI BssHII HincII XbaI
Bsp1286I GdiII BglI
gtgtcccatggtcgggacgtctggccgggtcaggcgccgcgaatgttgcgtctagac 11760
cacgaggttaccaggccctcgccggcactccgcgcgttagcaactgcgagatctg

Bsp1286I BmgI EarI
BsaXI BseSI BstDSI ApoI
cgtgcaaaaggagagccgtaaagcgggacttccgtgttgcgtggataaattcgaa 11820
gcacgtttccctcggacattcgcccgtagaaggcaccagaccacatttaagcggt

FIGURE 28

11821 gggtatcatggcgacgaccggggatccggccgtatccggccgtccggccgtatccat 11880
 cccatagttaccgcctgtggcccaagctggggcatggccggcaggccggcacttagta

BstEII | AtII | BsiHKAI
 BsaHI | Bsp1286I |
 11881 gcggttaccgcgtgtcgacccagggtgtcgacgtcagacaacggggagtgtcc 11940
 cgccaatggcgccgcacagttggcacacgcgtcagttgtggccctcagagg

NheI | HaeI | BssHII
 EaeI | MscI | EaeI |
 11941 tttggcttccaggcgccggctgtcgcttagcttttgccactggccgc 12000
 aaaaccgaaaggatccgcgcgcacgacgcgtatcgaaaaaccgggtacccggcg

SfcI |
 12001 gcagcgtaaagcggttaggctggaaaggcgaaagcattaagtggctcgccctgttagccg 12060
 cgtcgattcgccatccgaccttcgcttcgttaattcaccgagcgggacatcgcc

BsiEI |
 EaeI |
 12061 EcoO109I | GdiIII |
 Psp5II | BsrFI |
 StyI | SanDI | AloI | RsrII |
 12120 agggttatttcaagggttagtcgcgggaccccggttcgagttcgccgtccggccgg 12120
 tcccaataaaagggtcccaactcagcgccctggggcaagctcagagcgtggccggct

BsaWI |
 ApoI | Bsp1286I |
 12121 ctgcggcgaacgggggttgcctcccgcatgcggaaagccccgttgcaaatccctccgg 12180
 gagccgcgttgccccaaacggaggggcagttacgttctggggcaacgtttaaggaggcc

BstAPI |
 BanII | BsaWI | BseRI
 Bsp1286I | NsiI | |
 12181 aaacaggcgacgcccccttttgcctttccagatgcattccgtgtcgccgcagatcg 12240
 ttgtccctgtcgggaaaaacgaaaagggtctacgttaggcacgcggccgtctacgc

Bsp1286I |
 BseRI |
 BmgI |
 BseSI |
 BanI |
 12241 BbvCI | MspAII | MspAII | NspI |
 Bpu10I | MspAII | | |
 ccccccctctcagcagcgccaaagagcaagagcagccggcagacatgcaggccccc 12300
 ggggggaggaggtcgtcgccgtctcggtcgccgtctgtacgtcccggtggggagg

HincII |
 SacII |
 MspAII |
 BstDSI |
 12301 tcctctaccgcgtcaggaggggcagatccgcgttgacgcggcagcagatgggtatta 12360
 aggaggatggcgcagtcctcccgctgttaggcgcactgcgcgtcgctaccactaat

ApAI |
 BanII |
 Bsp1286I |
 BmgI |
 BseSI |
 HaeII |
 BsaHI | | |
 NarI | | |
 BanII | | |
 SacII | | |
 MspAII | | |
 BstDSI | | |
 12361 BspGI | EcoO109I | BseRI |

FIGURE 28

12361 cgaaaccccccgcgccggggcactacctggacttggaggaggcgagggcgatggc 12420
 gcttggggcgcccgccccggccgtatggacctgaaacctccctcccgatccggaccg
 Bani BsrBI StyI MspAII AflIII BsgI
 HaeII Bpu10I KpnI PvuII MluI
 gcggtttagggcgccctctctggcggttcccaagggtgcagctgaagcgatcg 12480
 cggccatcccgccggagaggactcgccatgggtccacgtcgacttcgactatgcgc
 SacII MspAII BstDSI
 BsaAI SunI BsiEI BanII Bsp1286I
 Eco57I AlwNI NruI AvaI
 tgaggcgtaacgtggccggcagaacctgtttcgccgacccggcgaggagggagg 12540
 actccgatgcacggcgccgttggacaagcgctggcgtccctctcggtct
 HaeIV Hin4I AloI BsrBI
 BseRI BseRI AceII BaeI NruI
 gatgcgggatcgaaatgtccacgcggcgagctggcatggctgaatcg 12600
 ctacggccctagcttcaagggtcgccgtcgacggacttagcgctcg
 BanII Bsp1286I BssHII
 BseRI BssHII
 gttgtcgccgaggaggacttgagccgcacgcgcgaaaccggattagtcccg 12660
 caacgacgcgtccctctgaaactcgccgtcgcttggccataatcaggcgccg
 BsiEI EaeI Eagi GdIII
 BsaAI PmlI BstEII DrdII
 AflIII NotI SexAI acacgtggccgcgcacctgttaaccgcatacggcagacggtaaccaggattaa 12720
 tggcaccggccggctggaccattggctatgctgtcgacttggctcttaatt
 SunI BsaAI PmlI BssHII SfcI
 HindIII BssHII BssHII SfcI
 ctttcaaaaagtttacaaccacgtgcgtacgcttggcgccgaggaggat 12780
 gaaattttgcattttgtggcgtcgatgcgacaccgcgcgtccctccaccata
 RleAI BseRI NsiI BssHII BpmI
 aggactgtatctgtggactttgttaacgcgcgtggagcaaaacccaaatagca 12840
 tcctgactacgttagacaccctgaaacattcgccgacccgtttggttatcggt
 MspAII BsrBI PvuII BsgI BsmI
 gctcatggcgacgtgttccttatagtgcacgcacggcggacacggcattcagg 12900
 cgagtaccgcgtcgacaaatcacgtcgatgtccctgttgcgtccgtaaatcc
 BanII Bsp1286I Avall MspAII BsaBI SfcI
 tgccgtctaaacatagtagagcccgaggccgtggctgtcgattgtataacatc 12960
 acgcacgttgcgtatctcgccgtcccgccaccgcacgactaaactatgttag
 Bce83I
 PstI MsI SmlI BsgI GdIII
 gcaagacatgtggcgtggcgtggccgtggctgtcgattgtataacatc 13020
 cgtctcgatcaccacgtcccgactcgaccgttccaccggccgtatc

FIGURE 28

13021 Xcm
 Bpu1102I |
 ctattccatgcttagcctggcaagtttacgcccgaagatataccatacccttacgt
 gataaggtaacatcgaccggttcaaaatcgccgttctatatggtatgggaatgca 13080

13081 FspI
 MslI
 NspI | HaeII
 tcccatagacaaggaggtaaagatcgaggggttctacatgcgcattggcgctgaagggtct
 aggttatctgttccatcttagtcccaagatgtacgcgtaccgcacttccacga 13140

13141 SmlI Eco57I Bce83I
 tacccgtggcgcacgtggcgttatcgcaacgcgcattccacaaggccgtgagcgt
 atggaaactcgctgtggaccggcaaatacgctgtcgcttaggtgtccggcactcgca 13200

13201 ApaI
 BanII
 Bsp1286I
 BsiHKAI
 Bsp1286I
 SacI
 Eco0109I |||
 BsrFI AceIII |||
 NgoAIV Bpu1102I ||| BsiEI BstAPI |||
 gaggccggggcgagtcagcgaccgcgactgtatgcacgcctgaaaggccctggc
 ctccggcccgccgtcgactcgctggcgctcgactacgtgtcgacgtttccggaccg 13260

13261 MspAII Hin4I Bsp24I HaeII
 tggcacggcagcgccatagagaggccgagtcctacttgacgcggcgctgacctcg
 accgtgcccgtcgccgtatctccggctcaggatgaaactgcccgcactggacgc 13320

13321 ApaI
 BanII
 Bsp1286I
 Bsp24I |||
 BmgI |||
 BseSI |||
 Eco0109I |||
 BspMI ||| Bsp24I BglI PvuII ||| BpmI BanI
 ctggccccaaaggcgacgcgcctggaggcagctggggccgacctggctggcggtggc
 gaccgggttcggctgcgcggacccctccgtgacccggctggaccggccaccg 13380

13381 BssHII
 Bsp24I |||
 BssHII |||
 accccgcgcgcgtggcaacgtcgccgcgtggaggaatatgacgaggacgtgagta
 tgggcgcgcgacccgttcgacccgccttatactgtctgtactcatgt 13440

13441 ScaI
 TatI ||| BclI
 gccagaggacggcgactaaggcggtatgtttctgtcagatgtatgcacgcacgc
 cggctctcgccgtcatgttgcgcactacaaagactgtctactacgtttcggttc 13500

13501 PstI
 HaeII |||
 SfcI ||| BstDSI
 gaccggcggtcgccggcgctgcagaggccagccgtccggcttaactccacggac
 ctggccgcacgcccggcgcacgtctcggtcgccaggccgaaattgaggtgcctgt 13560

13561 HaeII
 BsaHI |||
 NarI |||
 BanI ||| PflMI BssHII AfI |||
 tggccgcagggtcatggaccgcatcatgtcgctgactgcgcgaatctgacgcgtcc
 accgcggccatgttgcgttagtacagcactgacgcgtttaggactgcgcaggcc 13620

13621 BsaXI
 BsrFI |||
 HaeI |||
 cagcagccgcaggccaaaccggcttcggcaattctggaaaggcggtggccggccgc

FIGURE 28

FIGURE 28

14341 caggaggacacg, , agcctggaggcaaccctaaactactgtgaccaaccgucggcag 14400
 gtcctctgtgcccgtcgacccgttggatgtggacgactggggccgcgtc
 BstYI Drai BseRI
 | PMEI | BseRI | BsaAI
 aagatcccctcgatcgacatgttacccggggcgttgcgtacgtgcag 14460
 ttctaggggagcaacgtgtcaatttgcgtccctcgctaaaacgcgtacgtc
 BsgI BspGI
 | HaeII |
 cagagcgtgagccctaaccgtatgcgcgacgggtaacgcccagcgtggcgtggacatg 14520
 gtctcgactcgaaattggactacgcgtccccattgggtcgaccgcgttgcacatgtac
 BssHII NspI BsrFI BsiEI
 | | | EaeI |
 accgcgcgcaacatggAACCGGGCATGTATGCCTAAACCGGGCTTATCAACCGCTA 14580
 tggcgcgcgttgcacccgtacatacggatggccggcaatagttggcgat
 BsiEI
 EaeI |
 EagI |
 GdiII |
 NotI | Aval
 atggactacttgcacgcgcggccgtgaaccccgagtttccaaatgcacatctt 14640
 tacctgtacgtacgcgcggccacttgggtcataaagtgttacgttacgttac
 Bsp1286I
 Aval |
 BmgI ||
 BseSI ||
 Bani |||
 | |||
 aacccgcactggctaccggccctggtttacaccggggattcgaggtgcccagggt 14700
 ttggcgtaccgtggcgccggaccataagttggcccttaagctccacgggtccca
 AlwNI
 BstAPI
 |
 aacgatggattctctggacacatagacgcacagcggtttcccaaccgcacacc 14760
 ttgtacctaaggagaccctgttatctgtgtcgacaaaaggggcggtggcgctgg
 HaeII HindIII
 | |
 ctgtagatgtcaacgcgttgcgtccgtccgcacgtttccgttgcaggcg 14820
 gacatctcaacgttgcgtccgtccgcacgtttccgttgcaggcg
 HaeI Tth111I HaeII BstDSI SacII
 | | | | MspAII |
 aggccaaaggccgttgcgtccgttgcgtccgcggccggccgtcagatgttagcc 14880
 tccgggtcgacccgtatccgcacgcggccggccgtctacgtatcgatcatcggt
 HindIII Hin4I BsaI BglI
 | | | |
 tttcaaggatgtatagggtcttaccagactcgacccgcggccgtggc 14940
 aaagggtcgaaactatcccagagaatggtcgtgagcgtggggcgccggaccccg
 BseRI PstI BspMI
 | | |
 gagggaggatcacaaacaaactcgctgtcgacccgcggccgtgggggggg 15000
 ctccctccatggatgttgcgtggacgcgtccgtccgtgggggggggggg
 BbsI
 SunI |
 |
 gcatttcccaacaacggatagagagccatgtggacaagatgtggatggaa 15060
 cgtaaagggtgttgcctatctctcgatcacctgttactcatctacccatgc

FIGURE 28

BsiHKAI Bsp1286I Bsp24I BsiEI
 15061 ggcaggagcacagggacgtgccaggcccgcggcccccacccgtcgtaaaggcacac 15120
 cgcgtccctcggtccctgcacggccggccggccgggtggcagcgtttccgtgctg

 RleAI MspAI Bsp24I Hin4I DrdI
 15121 cgtcagcggggctgtgggtggaggacgtactcgccggccggccgggtggcagcgtttccgtgctg 15180
 gcagtcgccccagaccacaccctccctgctactgagccgtcgctgtcgccaggaccta

 FspI DraI
 15181 ttggagggagtggcaaccgttgcgcacccgtcgccggccaggctggggagaatgtttaa 15240
 aaccctccctcaccgttggcaaacgcgtggaaagcggggccggccctttacaaaatt

 BanI BstXI BstDSI NcoI StyI HaeII
 15241 aaaaaaaaaaaaaagcatgatgcaaaaataaaaaactacccaaggccatggccggccgggtgg 15300
 tttttttttcgtaactacgtttttttttgagtggttccggtaaccgtggctcgcaacca

 EcoO109I Psp5II Sse8647I
 BssHII BseRI
 15301 tttttgtattcccccgtatgcggcgccggcgatgtatggaggatgttccctccct 15360
 aaagaacataaggaaatcatacggccgcgcgtacatactccttccaggaggaggga

 HaeII BsaHI NarI BstDSI HaeII
 Pfl1108I BanI ||| HaeII
 15361 cttacgagagtgtggtgagcgccggccagtgccggccgtgggttccctcgatg 15420
 ggatgtctcacaccactcgccgcggtaaccgcggccgcgacccaaggaaagctac

 BanI SacII MspAI BstDSI KpnI BspMI
 BspGI
 15421 cttccctggaccggccgttgcctccggatctggccctaccggggggagaaaca 15480
 gaggggacctggcgccaaacacggaggccatggacggccgtggatggccctttgt

 BanI MsI SexAI
 15481 gcatccgttacttgagttggccatccctattcgacaccacccgtgttacctggaca 15540
 cgtaggcaatgagactcaaccgtgggataagctgtggggcacacatggaccacctgt

 HincII AhdI HaeIV HaeIV HincII PshAI BstDSI
 Hin4I Hin4I ||| |||
 15541 acaagtcaacggatgtggatccctgaactaccagaacgaccacacgaaactttgtacca 15600
 tgttcagttgcctacaccgttagggacttgatggcttgcgttgaaagactgg

 Tth111II SmaI HaeIV Hin4I
 SfcI AvaI ||| |||
 15601 cggtcattcaaaacaatgactacagccccggggaggcaagcacacagaccatcaatctt 15660
 gccagtaagttgttactgtcgcccccctccgtcggtgtcggttagttagaac

 BsiEI AhdI BsiEI BsaWI BsrFI HaeIV Hin4I

FIGURE 28

PinAI | | E
 |||
 15661 acgaccgggtcgactggggcgccgacctgaaaaccatcctgcataccaacatgccaatg
 tgctggccagcggtaccccgccgtggacttttgtaggacgtatggttgtacggttac
 Ns.
 XmNI
 |
 15721 tgaacgagttcatgtttaccaataagtttaaggcgccgggtatgggtgtcgccgttc
 acttgcgtcaagtacaaatggttattcaaaattccgcgcactaccacagcgcaacggat
 15780
 AceIII TaqII AvaI
 | | |
 15781 ctaaggacaatcagggtggagctgaaaatcgcgtggacttgcgtgcggaggca
 gattcctgttagtccacccgttgcgttgcgttgcgttgcgttgcgttgcgttgcgt
 15840
 BsaI BsiEI BsiHKAI
 | | |
 15841 actactccgagaccatgaccatagaccttatgaacaacgcgtcgagactacttga
 ttagtgggtctgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgt
 15900
 Eco57I
 |
 15901 aagtggcagacagaacggggttctggaaagcgacatgggttaagttgacacccgca
 ttcaccgtctgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgttgcgt
 15960
 BmrI Tth11I
 | |
 15961 acttcagactgggtttgacccgtcactggttgtcatgcgtgggtatataacaaacg
 tgaagtctgacccaaactgggcagtgaccagaacagtacggacccatataatgttgc
 16020
 16021 aagccttccatccagacatcatttgcgtccaggatgcgggttggacttcacccacagcc
 ttcggaaaggtaggtctgttagaaaacgacggtcctacgccccacctgaagtgggttgcgt
 16080
 RleAI
 TaqII
 Bpu10I
 | | |
 16081 gcctgagacaacttggcatccgaacggcaacccttcaggaggggctttagatca
 cggactcgtaacaacccgttaggcgttcgcgttggaaaggctcccgaaatcctagt
 16140
 Pfl1108I MmeI BpmI BsaHI BglI
 | | | | |
 16141 cctacgatctggagggtgttaacattccgcactgttggatgtggacgcctaccagg
 ggatgctactagacctccaccattgttaaggcggtgacaacctacacctgcggatggcc
 16200
 BtsI
 |
 16201 cgagcttggaaagatgacaccgaacaggcgccgggtggcgccaggcgccagcaacagg
 gctcgaaacttctactgtggctgtcccgccccaccgcgtccgcgttgcgt
 16260
 SacII BsrFI
 EarI MspAII BsrDI
 MspAII | | | | |
 16261 gcagcgccgcggaaagagaactccaacgcggcagccgcggcaatgcagccgtggaggaca
 cgtcgccgcgcctcttgcgtggatgtggccgcgttgcgt
 16320
 BcgI BbvCI BbvCI
 Bpu10I Bpu10I Bpu10I
 BglI BssHII BssHII
 | | | | | |
 16321 tgaacgatcatgcccattcgccgcacacccttgcacacacgggtgaggagaagcgccgtg
 acttgcttagtacggtaagcgccgtgtggaaacgggtgcccactcccttcgcgcac
 16380
 BsiEI BbvCI BbvCI
 EaeI Bpu10I Bpu10I
 EagI BglI BssHII
 GdiI BssHII BssHII
 MspAII FspI
 | | | | | |
 16381 agggccgaagcgccgcggaaagctggcccccgtgcgcacccgggtgagggtcgagaagg
 tccgggttcgtcgccgcgttgcacggcgccggcgacgcgttgggtccagcttcgcgc
 16440

FIGURE 28

FIGURE 28

FIGURE 28

FIGURE 28

DrdI B I EciI BsiEI
 18421 aaacgtccccgggtgcctcagcggtggcgatgcgcggatgcggctgcggcc 18480
 tttcagggccaacggatcgccaccgcctacggccacgtccggcagcgcggc
 BstDSI
 18481 cgtccaaacacctacggaggtgaaacacggaccctgtatcgcttcagcccc 18540
 gcagggtctggagatgcctccacgtttgcctggcacactacaagcgcaagtcgggg
 HaeII BsaHI BsaHI HaeII
 NarI NarI BanI BssHII
 18541 ggcggccggcggttcgaggaaatcgccggccacgcgcgtactggccaaatggcc 18600
 ccggggcgccaaagctcctatgcggccggcgtcgccatgacgggttatacggg
 BsrDI
 18601 tacatcctccattgcgcctaccccccggctatcggtgtacacccatccggccaaagac 18660
 atgttagaaaggtaacgcggatggggccatagcaccatgtggatgggggtcttctg
 BbsI BsaHI DrdII
 18661 gagcaactaccgcgcgaaaccaccacttggaaaccggccggccgtcgccgtcgcc 18720
 ctcgttcatggctgcggcttgggtgaccttggccggccggcagcggcagcgg
 BcgI FspI NruI Eco0109I
 18721 ccgtgtggcccgatttccgtgcgcagggtggctcgcaaggaggaggaccctggc 18780
 ggcacgacccggctaaaggcacgcgtccaccgcgttccgtccgttggaccacg
 BssHII DrdII BsrFI
 18781 tgccaaacagcgctaccaccaggcatgtttaaaaggccgttttgggttgcag 18840
 acgggttgcgcgtatgggggtcgtagcaatccggccagaaacaccaagaacgtc
 AarI BspMI BanI BsmI
 18841 atatggccctcacctgcgcctcccggtttccgggtgcgggattccggaggaagaatgcacc 18900
 tataccggagtggaacggcggaggcaaaggccacggccctaaggcttcttacgtgg
 BstDSI FseI
 18901 EaeI GdI BsrFI NgoAIV EaeI GdI BsrFI NspI BsrFI
 18901 gtaggaggggatggccggccacggcctgacggccgtatgcgtcgccgaccaccggc 18960
 catcctcccgtaacggccggactggccggatcgccggatcgacgcacgcgtggccgg
 BssHII SphI NspI BciVI
 18961 ggcggccgcgtgcaccgtgcgtatgcggccgtatctgcggcccttattccactga 19020
 ccgcgcgcgcacgtggcactgcggccataggacggggaggaataagggtact
 Bsp1286I BmgI
 19021 EseI HaeII SacII BsaHI BstDSI HaeI BglI
 MspAII NarI BanI BstDSI HaeI BglI
 19021 tcgcggcgccatggccgtgcggatggccgtgcggatgcgtccgtggcccttgcaggcgac 19080
 agcggccggtaaccgcggacggccataacgtggcaccggaaacgtccgcgtctctg
 NspI BspGI
 19081 actgattaaaaacaagttgcatgtggaaaaatcaaataaaaatctggacttcacgct 19140
 tgactaattttgttcaacgtacaccccttttagttttatccatggacactgagatgcga

FIGURE 28

19141 cgcttggctctgtactatggatggaaatggacatcaactttcgctctggccccg BbsI BsmB1 19200
gcaaccaggacatgtataaaacatcttacccctctgttagttaaacgcagagaccggggc

19201 cgacacggctcgccccgttcatgggaaactggcaagatatcgccaccaggcaatatggc BanI BsrBI
gctgtgccgagcgcggcaagttacccttgaccgttctatagccgtggcttatactcg EcoRV Eco57I 19260

HaeII BanII
BsaHI | Bsp1286I
NarI | MspAII
BanI | PvuII | BsrBI ApoI
|| | || |
19261 ggtggcgccttcagctggggctcgctgtggcggcattaaaaatttcggttccaccgtt 19320
ccaccgcggaaatgcgaccggcagcacaacctcgccgtattttaagccaaagggtggcaa

BbvCI
HaeI Bpu10I
StuI HaeI AlwNI |
| | |
19321 aagaactatggcagcaaggcctggaaacagcagcacaggccagatgtgagggataagtt 19380
ttcttgataccgtcggtccggaccttgcgtgtccgttacgactccctattcaac

HaeI
ApoI MmeI |
| | |
19381 aaagagcaaaatttccaaacaaaagggtggtagatggcctggcattagcgggggtg 19440
tttctcgtttaaagggtgtttccaccatctaccggaccggagaccgtaatcgccccac

HaeI
MscI
EaeI | BglI BtsI HindIII
| | |
19441 gttggacctggccaaaccaggcagtgaaaataagattaacagtaagttgatccccccct 19500
cacctggaccgggttggccgtacgtttattctaattgtcatcgactaggggccggaa

BpmI
BsiEI
BstDSI
BseRI | BsaXI
EaeI || Hin4I |
EagI || Tth111I ||
GdII || BsaXI |||
BsrFI | || Hin4I |||
| | | |
19501 cccgttagaggaggccctccaccggccgtggagacagtgtctccagagggggtggcggaaaaag 19560
gggcatctctcgaggtggccggcacctgtcatcgactagggtctcccgaccegttttc

Hin4I SunI
19561 cgtcccgccccgacagggaaactctggtgacgcaaatagacgaggccctccgtac 19620
gcaggcgccggctgtcccttcttgagaccactgcgttatctgtcgaggagcatg

BstAPI Bsp24I
HaeII | BstDSI |
StuI | NcoI |
Bsp24I || StyI |
BplI BseRI | || XcmI | BsaWI
| | | |
19621 gaggaggcactaaaggccctggccaccaccgtccatcgcccatggctaccggaa 19680
ctccctcgatattcggtccggacgggtggcaggtagcgcggtaaccgtggcc

BspGI BspMI
19681 gtgctggccaggcacacaccgttaacgtggaccgtccctcccccggcggacaccggcag 19740
cacgaccggcgtgtgtggcattgcgacccgtggcgggttgcggatggcc

TaqII BsiEI
| |
19741 aaacctgtgtgtccaggccggaccggcgttggtaaccgtccatggccggcgtccctg 19800
tttggacacqacqacqgtccgggtggcggatggcggatggccggatggccggatggcc

FIGURE 28

19801 cggccgcggcgttccggccgttagccagtggcaacccaaaggc 19860
 19861 acactgaacagcatcggttctgggggtcaatccctgaagcggccgatcgatgtttca 19920
 19921 atagctaactgtgttatgtgttatgtatgcgtccatgtcgccgcccagaggagctgt 19980
 19981 tatcgattgcacagcatacacacagtatcacatcgccgggtctcctcgacga 20040
 20041 NspI Avai BsaHI Bpu10I SmaI 20100
 20101 BsmBI Eco57I BsgI BstDSI BtsI 20160
 20161 BciVI DraII BsrFI PinAI Bsp1286I MsII 20220
 20221 BspGI BsaAI BstDSI BspGI TaqII RleAI ApaI 20280
 20281 Bsp1286I BmgI BseSI SacII EcoO109I BspGI BspGI 20340
 20341 BtsI StyI Bani Bsp1286I BmgI BseSI SacII EcoO109I BspGI BspGI 20400
 20401 EarI cttgcgaatgggatgaagctgctactgtttgaaataaacctagaagaagaggacatg 20460
 20461 AccI BbsI Bpu1102I BsaAI BsaAI BsaHI NarI Bani Bani 20520

FIGURE 28

FIGURE 28

21361 BstDSI NcoI StyI PflMI ApoI
 taagagttggaaataatttgccatggaaatcaatctaataatgccaacactgtggagaaaaatt 21420
 attctcaacccttattaaacgttacccatgttagattacgttgcacccctttaa

 21421 HaeII TatI Eco47III MmeI TatI
 tcctgtactccaacatagcgctgttgcggacaagctaaaggatcagtccttccaacg 21480
 aggacatgagggttatcgacataaacggctgttcgatgtcaggaagggtgc

 21481 ApoI MmeI Pfl1108I Tth111II SmaI
 taaaaatttctgataaccacaaacacactacgactacatgaacaaggcgatggggctcccg 21540
 attttaaagactattgggtttgtggatgtacttgcgtcaccaccgaggc

 21541 StyI Bsp1286I BsIKAI Tth111I
 ggtagtggactgctacattaaccttggacacgcgtggcccttgcactatggacaacg 21600
 ccaatcacctgacgatgatattggacactgtgcgaccaggactgatataccgttgc

 21601 HincII XcmI HaeI MsII BsrDI BsrBI
 tcaaccatattaaaccaccaccgcaatgtggctgcgtaccgtcaatgttgcggca 21660
 agttggtaatttgggtggcgttacgacggacgcgtggcgagttacaacgaccgt

 21661 Bsp1286I BmgI BanI BsrDI BseSI MsII
 atggtcgctatgtgccttccacatccagggtgcctcagaagttttgcattaaaaacc 21720
 taccagcgatatacgggaaagggttaggtccacggagtctcaagaaacgttaattttgg

 21721 Pfl1108I Eco57I HincII HpaI DrdII
 Bsp1286I BanII Bsp1286I
 tccttcctggcgtcatacacaccgtggacttcaggatgttgcggatgttacatgg 21780
 aggaagaggacggcccgagtatgtggatgttgcgttgcatttttgc

 21781 AvrII StyI BanII BspIKAI Bsp1286I PstI
 SfcI SacI Bsu36I HincII
 ttctgcagagctcccttagaaatgacctaagggttgcggagccatggatggata 21840
 aagacgtctcgaggatcccttactggattccactgcctcgatgttgcattaaactat

 21841 BstDSI NcoI BsaXI SmlI
 StyI BsbI RleAI HaeI
 gcatttgcctttacgccaccttctcccccataggccacacccgcctccacgttgg 21900
 cgtaaacggaaatgcgttgcggatggggatcccttactggattccactgcctcgatgttgcgaactcc

 21901 BsaXI Bce83I Hin4II EciI
 ccatgcttagaaacgacaccaacgaccgttacgactatctctccggcccaaca 21960
 ggtacgaatttgtgtgtgttgcgttgcggatggggatcccttactggatggggatgg

 21961 Bsp1286I BmgI BseSI BmrI
 NspI
 tgcttacccataccggccacgttaccaacgttgcggccatccatccctccggcaact 22020
 acgagatgggatatggcggttgcgttgcggatgggtataggttagggggatgg

FIGURE 28

FIGURE 28

Gdi |
 BsiHKAI | |
 Bsp1286I | |
 BsrFI | |
 BseSI | | |
 Tth111I | | | |
 BanII | | | |
 Bsp1286I | | | |
 Tth111I | | | |
 ApaLI | | | |
 | | | | |
 agcccaccccttcttatgtttgtttgaagtcttgacgtggccgtgtgcacccggcgc
 22741 |-----+-----+-----+-----+-----+-----+-----+ 22800
 tcgggtggaaagaaaataaaaaacaaacttcagaaactgcaccaggcacacgtggccggcg

 BsiEI |
 BsrFI |
 BsaHI |
 SacII | |
 MspAII | |
 BstDSI | | |
 | | | |
 accgcggcgtcatcgaaaccgtgtacctgcgcacgccttctggccggcaacgcccacaa
 22801 |-----+-----+-----+-----+-----+-----+-----+ 22860
 tggccggcagtagttggcacatggacgcgtgcggaaagagccggccgtgcgtgtt

 BanII |
 MspAII | Bsp1286I |
 PvuII | BstDSI |
 BpmII | NcoI |
 Tth111I | | StyI |
 | | | | |
 cataaagaagcaagcaacatcaacaacagctgcgcacatgggctccagtggcaggaaact
 22861 |-----+-----+-----+-----+-----+-----+-----+ 22920
 gtatttcttcgtttagttgttcgcacggcggtacccgggtactcgttcttga

 Bsp1286I |
 BglII |
 BstYI |
 RleAI |
 | | | |
 gaaaggcattgtcaaagatcttgggttggccatattttggcacatgacaagcg
 22921 |-----+-----+-----+-----+-----+-----+-----+ 22980
 ctttcggtaacagttctagaaccaacacccgtataaaaaacccgtggatactgttgc

 NruI |
 BsiEI |
 BsiEI |
 BsrFI |
 EaeI | |
 EagI | |
 GdiII | | |
 HaeII | | | |
 | | | |
 ctttcaggcttggccatccacacaagctcgccatcgccatagtcataatccggccggc
 22981 |-----+-----+-----+-----+-----+-----+-----+ 23040
 gaaaggcggaaacaaagagggtgttcgcacggcggtatcagttatgcggccagc

 BmrI | HaeI | UbaLI | NspI |
 | | | |
 cgagactggggcgtacactggatggcccttgcggaaacccgactcaaaaacatgcta
 23041 |-----+-----+-----+-----+-----+-----+-----+ 23100
 gctctgaccccccgtgtgacctaccggaaacggacccgtggcgtgagttttgtacat

 BanII | SmlI |
 Bsp1286I | Bce83I | BspMI |
 | | | |
 cctcttggcccttggcttctgaccaggactcaaggcagggttaccagggtttagt
 23101 |-----+-----+-----+-----+-----+-----+-----+ 23160
 ggagaaactcggaaacccgaaaagactgtcgctgagttcgccaaatggcaactcat

 BsrDI | MspAII |
 HaeII | BsiEI |
 | | |
 cgagtcactctgcgcgttaggcgcattgtttcccccggcgttataacgcgttga
 23161 |-----+-----+-----+-----+-----+-----+-----+ 23220
 gctcaactggggccatcgccgttaacgaaagggggctggcgacatattgcgaccc

 ApaI |
 BanII |
 Bsp1286I |
 BglI | BsiEI |
 BseSI | EaeI |
 Eco0109I | | EagI |
 TaqII | | GdiII |
 | | | |
 aaagtccacccaaagcgtacaggggcccaactcgccgcctgtggactattctgt
 23221 |-----+-----+-----+-----+-----+-----+-----+ 23280
 ttctagggtttcgatgtcccggttggactggccggacacctgataagacgacgt

 BstDSI |
 NcoI |
 StyI |
 BaeI |
 | | |
 gtttctccacgccttgcacactggcccaactccatggatcacaacccaccatgaa

FIGURE 28

FIGURE 28

Hin4I MslI BpI BstEII HgiEII BciVI
 | | | | | |
 gttgcactcgaccgttagtggcataaaagggtgaccgtccggctggcgtaggata
 24001 | | | | | | | | | |
 caacgtgagcgtggcatcaccgtagtttccactggcacggccagacccgcaatctat
 AlwNI Bpu10I
 HaeII Eco57I
 | | |
 cagcgccctgcataaaaaggccttgcattaaaggccacctgagcccttgcgccttcaga
 24061 | | | | | | | | | |
 gtcgcggacgtatccggacttagacgaatttcggactcgaaacgcggaaactct
 NspI BstAPI EaeI BglI BseSI
 | | | | | | | | |
 gaagaacatgccgcaagacttggccggaaaactgattggccggacaggccgcgtgcac
 24121 | | | | | | | | |
 cttttgtacggcttgcacccctttgactaaccggctgtccggcgcagcaactg
 BglII BsaWI
 BstYI BsrFI
 BsgI BsbI PinAI
 | | | |
 gcagcaccttgcgtcggtgttggagatctgaccacatttcggcccccaccggttttcac
 24181 | | | | | | | | |
 cgtcggtggaaacgcggccacaacctctagacgtggtaaaggccgggtggccaagaatg
 Eco57I BssHII
 HaeI BssHII
 | | |
 gatcttggccttgcactgtccttcagcgcgcgtgcccgtttcgtcgtcacatc
 24241 | | | | | | | | |
 ctagaaccggaaacatctgacgaggaagtgcgcgcgacggcaaaagcgagcagtgtag
 BsiHKAI Bsp1286I
 BsaAI AfII
 PmlI AccI SmlI
 | | | | |
 catttcaatcacgtgctcatttataatgcttccgttagacacttaagctcgcc
 24301 | | | | | | | | |
 gtaaaggtagtgcacgagaaatagattacgaaggacatctgtgaattcgagcgg
 BanII Bsp1286I
 BssSI Tth111I
 BsgI BstDSI
 MspAII | | | | |
 | | | | |
 ttcgatctcagcgcagcggtgcagccacaacgcgcagccgtggctgtatgt
 24361 | | | | | | | | |
 aagcttagatgtgcgtcgccacgtcggtgttgcgcgtcgccacccgagactacacat
 BstEII BspMI PstI SfcI SfcI
 | | | | | |
 ggtcacctctgcaaaacgactgcaggtacgccctgcaggaatcgcccatcatcgtcacaaa
 24421 | | | | | | | | |
 ccagtggagacgttgcgtccatgcggacgtccttagcgggtagtagcgtgttt
 BsiHKAI Bsp1286I
 SacII MspAII
 MspAII BstDSI
 PvuII BseRII
 | | | |
 ggtcttggctgttgcaggtaaggctcagtgcaacccgcggctccgtcgtcaggcaggctt
 24481 | | | | | | | | |
 ccagaacaacgaccacttcacgtcgacgttggcgccacgaggagcaagtgcgtccagaa
 BsiEI
 EaeI
 EagI
 GdiII
 |
 gcatacggccgcagagcttccacttggtcaggcagtagttgaagttcgcccttagatc
 24541 | | | | | | | | |
 cgtatgcggcggtctcgaaaggtaaccagtcgtcatcaaacttcaagcgaaatctag

BssHII

FIGURE 28

FIGURE 28

FIGURE 28

FIGURE 28

26581 -----+-----+-----+-----+-----+-----+ 26640
 cgtttgaact tggataacctgcggaaaggttgtcgccggcaccggcgtggaccg
 EcoNI AlwNI
 | |
 ggcacatcatttccccgaacgcctgcttaaaaaccctgcaacagggtctgccagactcac
 26641 -----+-----+-----+-----+-----+-----+ 26700
 cctgttagtaaaagggggttgcggacgaatttggacgtgtcccacacggctgaagt
 Bpu10I
 HaeII
 NspI Eco47III |
 | |
 cagtc当地agcatgttgc当地acttttaggaactttatcctagagcgtc当地agatcttgc
 26701 -----+-----+-----+-----+-----+-----+ 26760
 gtcagtttgc当地acacgtcttgc当地aaatccttgc当地aaataggatctcgagtc当地tac
 BsiHKAI
 Bsp1286I
 BseSI | Bsp1286I
 BspMI | BmgI |
 AarI ApaLI | BseSI | EciI
 | | | | BsmI |
 cggccacactgtgtgc当地cttgc当地acttgc当地acttgc当地atccgc当地atgc
 26761 -----+-----+-----+-----+-----+-----+ 26820
 gcggtggacacacgtgaaaggatcgctgaaacacggtaattcatggc当地tacggagg
 NheI
 PstI |
 BtsI SfcI ||
 | |
 gccc当地tttggggc当地actgtcttgc当地cagctagcc当地actacccttgc当地tacc
 26821 -----+-----+-----+-----+-----+-----+ 26880
 cggc当地aaaccccggtgacgatgaaagacgtcgatcggtgatgaaacggatggtagact
 BsrBI BstAPI
 BbsI | AccI |
 | |
 cataatggaaagacgtgagcggtgacggctactggagggtcactgtcgctgcaacccatg
 26881 -----+-----+-----+-----+-----+-----+ 26940
 gtattaccttctgactcgccactgccc当地atgacactgacagc当地gttggata
 BsrBI MspAII BanI
 | PvUII |
 | |
 caccccc当地accgctccctgggttgc当地atttgc当地cagctgcttgc当地aaat
 26941 -----+-----+-----+-----+-----+-----+ 27000
 gtggggc当地tggc当地ggaggacc当地aaacgttgc当地agc当地tgc当地tta
 KpnI EcoO109I MspAII
 SfcI PspSII BstDSI
SanDI	AhDI	
PstI	HaeIVI	
	Hin4I	
tacccccc当地ggctccctgggttgc当地atttgc当地cagctgcttgc当地aaat		
27001 -----+-----+-----+-----+-----+-----+ 27060		
atggaaactcgacgtccc当地aggaggc当地actgtttc当地aggc当地ggaggcccc		
AatII BsaHI ApoI Bsu36I		
cactccccc当地gtggacgtcgcttgc当地acccttgc当地aaatgtac		
27061 -----+-----+-----+-----+-----+-----+ 27120		
gtggaggcccc当地acacctgc当地aggc当地atggactc当地tgc当地		
BssSI UbaLI Pfl1108I BbsI		
ccacgagat tagttctacgaagaccaatccccc当地ccaaatgc当地ggatctt		
27121 -----+-----+-----+-----+-----+-----+ 27180		
ggtgctcaatcaagatgtcttgc当地tagggc当地gggttac		
MunI		
HaeI		
MscI		
EaeI		
BstXI		
cgtc当地tacccccc当地aggccc当地acatttgc当地accattgc当地		
27181 -----+-----+-----+-----+-----+-----+ 27240		
gc当地agtaatgggtccc当地gggtgtaagaaccggtaac		
Pfl1108I BmrI BanII		
HaeIV		
Hin4I		
 gtttctgctacgaaaggaggacggggggtttacttggacc

FIGURE 28

FIGURE 28

SfcI BsrFI
 BsgI | SgrAI MspAII
 27841 cccgttaacatctgtcattactaccgtcatctacagccatactgcacccggcggcagcg 27900
 gggattgttaggacgtaatgtatggcagtagagatgtcggtatgacgtggccgcgtcgc

 EaeI BsiEI
 MspAII GdIII BsaWI
 27901 gcagccggcagcaacagcagcggccacacagaagaaaggcgaccggatagcaagactcg 27960
 cgtcgccgtcgttgcgtcgccgtgtctcgatcgatcgacgcacccgc

 BsaHI Nari BanI
 BseRII BseRI
 HaeII Eco47III
 MspAII
 27961 acaaaggccaaatccacagcggccggcagcaggaggaggagcgtcgctggcg 28020
 tgtttcgggttcttaggtgtcgccgcgtcgatcgatcgacgcacccgc

 HaeII
 28021 cccaaacgaaaccgtatcgacccggcagcttagaaacaggatttccactctgtatgt 28080
 gggttgttggccatgtggcgctcgatcttgcctaaagggtgagacatacg

 AceIII BsaI
 28081 atatttcaacagagcagggccaaagaacaagagctgaaaataaaaacaggatctcgga 28140
 tataaagtgtctcgccgggttctcgactttatcttgcagatcgacgcacccgc

 MspAII Eco57I
 PvuII
 28141 tccctcacccgcagctgcgttatcacaaaaggcgaagatcgtcgccgcacgtggaa 28200
 agggagtggcggtcgacgacatagtgtttcgatcgatcgacgcgtcgacccgc

 BbsI EarI BssHII AflII SmlI SpeI
 28201 gacggggaggctcttcgtaaataactgcgcgtacttttaaggactatcgcc 28260
 ctgcgcctccgagagaagtcatatgcgcgtactgagaattcgatcaaaggcg

 HaeII
 BsaHI Nari BanI
 EaeI GdIII Bsp24I
 ApoI BpmI BsaXI MspAII
 28261 ctttctcaaatttaagcgcggaaaactacgtcatctccaggccacacccggcgcc 28320
 gaaagagttaaattcgctttatgcgtatcgactggatcgccgtgtggccgcgt

 NspI
 AlwNI Bsp24I AflIII BspLU1II
 HaeII BpmI ApoI
 28321 cctgtcgatcgccattatgagaaggaaattccacgcctacatgtggatgttaccag 28380
 ggacagcgtcgccgttaactcgatcgatcgatcgatcgatcgatcgatcgatcg

 AceIII BpmI
 28381 ccacaaaatggacttgcggctggagctgccaagactactcaacccgaaataactatg 28440
 ggtgtttaccctgaacgcgcacccgtacgggttctgtatcgatcgatcgatcgatcg

 HincII
 RleAI SmaI
 Eco0109I Psp5II Avai
 Psp5II SanDI EcoRV
 28441 agcggggacccacatgatataccgggtcaacggaaatccgcgcacccgaaaccgaaatt 28500
 tcgcgcctgggtgtactataggcccagttgccttaggcgcgggtggcttggcttaa

 28501 ctcttggaaacaggcggtattaccaccacacccgtataaccttaatccccgtatgg

FIGURE 28

FIGURE 28

Psp5II
 Bpu11I SanDI AloI
 29221 cccctgctaggtagcgccggacaggggaccctgtttcactgtgatttgcactgttcct
 gggacatcaactcgccctgtccctggacacaagagtgacactaaacgttgcacagga 29280

BglII
 StyI BglII BstYI PacI
 29281 aaccttggattacatcaagatcTTAATTAAgatcttattcccttaactaataaaaaaa
 ttggAACCTaatgttagttctagAATTAAATTctagaataaggaaatttgcattttttt 29340

ApoI BspGI
 29341 ataataaaagcatcacttaaaaatcagtttagcaaaattctgtccagtttattcagcag
 tattatttcgttagtgaattttagtcaatcgtaaagacaggtaaagtgcgtc 29400

BseRI AceIII
 29401 caccccttgccttcctccagctctgttattgcagttccctggctgcaaaacttct
 gtggaggaacggggagggtcgagaccataacgtcgaaggaggaccgacgttggaaaga 29460

XcmI
 29461 ccacaatctaaatggaatgtcagtttccctgttccatccgcacccactatctt
 ggtgttagattttacactacagtcaaaggaggacaaggacaggtaggcgtgggtgatagaa 29520

TaqII BssHII Eco57I
 29521 catgttggatcagatgaaggcgcaagaccgtctgaagataccttcaacccctgttatcc
 gtacaacaacgtctacttcgcgcgttctggcagacttctatggaaagtgggcacatagg 29580

BsaXI
 BciVI BsrFI NdeI PinAI BseRI MmeI
 29581 atatgacacggaaaccggccatccactgtgccttttttactccctcccttgcatacccc
 tatactgtgccttggccaggagggttgcacggaaatgaggaggaaacatagggg 29640

BciVI
 29641 caatgggttcaagagatccccctgggtactctttgcgcctatccgaacctctagg
 gttacccaaagtcttcagggggacccatgagagaacgcggataggctggagatca 29700

Tth111II NspI BsrFI BspGI NgoAIV
 29701 tacctccaaatggcatgttgcgtctaaatggcaacggccctctctggacggccgg
 atggagggttaccgtacaaacgcgagtttaccgttgcggagagacgtctccggcc 29760

BanII Bsp1286I Hin4I Bpu1I
 BsaXI
 29761 caaccttacccaaatgttaaccactgtgagcccacactctcaaaaaaccatcaaa
 gttgaatggagggttacattgtgacactcggtggagatgtttttggtagtt 29820

BsgI Tth111II
 29821 cataaacctggaaatatctgcacccctcacagttacccctcagaaggccataactgtggctgc
 gtatttggaccttataagacgtggggagtgtcaatggagttcggattgacaccgacg 29880

HgiEII BsbI Eco0109I
 29881 cggcccacctctaatggtcggggcaacacacactcaccatgcaatcacaggccccgtaac
 gcggtggagattaccagcggccgttgcgttgcgttgcgttgcgttgcattt 29940

BsiHKAI Bsp1286I Eco0109I
 BseSI
 ApaLI BsrDI StyI TaqII
 29941 cgtgcacgactccaaacttagcattgccaccccaaggaccctcacagttgcagaaggaaa
 gcacgtgtggatgttgcatacggtgggttgcgttgcgttgcgttgcacagtcttcc 30000

FIGURE 28

FIGURE 28

FIGURE 28

gtagtcacta, | atttgagggggccgtcgagtgaattcaagtacagc. ggccga
 Bpu1102I AlwNI | MmeI
 |||
 31621 gctgagccacaggctgtccaaacttgcggttgcttaacggggggcaaggagaagtcc 31680
 cgactcggtgtccgacgacagggtgaacgcacaaatggccggcttcttcagg
 |||
 Hin4I MslI PstI
 acgcctacatggggtagagtataatcgcatcaggataggcggtggctgcacga 31740
 tgcggatgtacccatctcagttatcgcacgttagtcctatccgcaccacgacgtcg
 |||
 BssHII BcgI SbfI BtsI
 |||
 31741 ggcgcgaataaaactgctgcccggccgcctccgtctgcaggaatacaacatggcagtt 31800
 cgcgcgttatttgcacgcggcgccggcaggacgtccttatgttgcacc
 |||
 BbvCI BsaHI Bsp1286I
 Bpu10I NarI BmgI
 BsaI BanI BseSI
 |||
 31801 tctcctcagcgatattcgacccggccgcacgcataaggcgcttgcctccggcacaggc 31860
 agaggagtgcgtactaagcgtggcgccgtcgattccgcggacaggaggccgtcg
 |||
 SfcI AlwNI PstI SspI
 31861 agcgccacctgatctacttaatcagcacagtaactgcacagcaccacaatattgt 31920
 tcgcgtggactagtgatattgcgtcattgcgtcgatgtgttataaca
 |||
 RleAI HaeIII BcIVI
 31921 tcaaaatcccacagtgcacaggcgctgtatccaaagctcatgggggaccacagaaccca 31980
 agttttaggggtcacgttccgcacataggtagttcgagttccggccctgggtcttgggt
 |||
 HaeI MscI
 EaeI .
 BsaAI PmlI BspMI BspGI
 |||
 31981 cgtggccatcataccacaagcgcaggtagattaagtggcgcacccctcataaacacgtgg 32040
 gcaccggtagtatgggtcgccatctaattcaccgcgtgggagttgtgcgacc
 |||
 NspI KpnI
 BanI
 32041 acataaacattaccttttggcatgtttaattcaccacccgggtaccatataaacc 32100
 tgtatttgcgtatggagaaaaccgtacaacattaagtggggccatggatatttgg
 |||
 HaeII HaeI
 BsaHI MscI
 NarI EaeI BspMI
 BanI MspAII BsrFI
 |||
 32101 tctgattaaacatggcgccatccaccaccatcctaaaccagctggccaaacctgcccgc 32160
 agactaatttgcgtatggcggttaggtggatggatggatggatggacggggcg
 |||
 PstI BtsI BanII
 SfcI Bsp1286I
 32161 cggctataactcgaggaaacgggactggaaacaatgcacgtggagagccaggactgt 32220
 gccgatatgtgacgtcccttggccctgacccttgcgttactgtcacctctcggtctgagca
 |||
 BstDSI BsaAI
 NcoI PmlI
 StyI RcaI EcoRV BsbI AfI
 |||
 32221 aaccatggatcatcatgtcgatcatatcaatgttggcacaacacaggcacatgc 32280
 ttggtaccttagtacgagcgtactatagttacaaccgtgtgtccgtgtcact

FIGURE 28

32281 Bsu36I | DrdII |
 tacacttcctcaggattacaagtcctcccgcggttagaaccatatcccaggaaacaaccc
 atgtgaaggagtccatatgttcgaggaggcgcaatcttggatagggtcccttgggg 32340

32341 PstI | BtsI | BbsI | SfcI | RleAI | BsaAI | DraIII |
 attcctgaatcagcgtaaatcccacactgcaggaaagacctgcacgttaactcacgtgt
 taaggacttagtcgcatttaggtgtgacgtcccttcggagcgtcattgagtcacaaca 32400

32401 MspAII | BpmI |
 gcattgtcaaagtgttacattcgccagcaggatgatcctccagttatggtagcgggg
 cgttaacagttcacaatgtaaagccgtcgctacttagggatcataccatcgccccc 32460

32461 AccI |
 tttctgtctcaaaggaggtagacgtccactgtacggagtgcgcgcgagacaacccgg
 aaagacagagtttccatctgtcttagggatgacatgcctacgcggctctgtggctc 32520

32521 Pfl1108I | BsBI | Tth111I |
 atcgtgttggtcgttagtgcataggccaaatggAACGCCGACGTAGTCATATTCTGAAG
 tagcacaaccagcatcacagtacggttaccttcggccgtcatcagttaaaggacttc 32580

32581 BsmBI |
 SexAI | Eco57I | BglII | BstYI | Tth111III | BsaWI | BsaI |
 caaaaccagggtgcggcggtgacaaacagatctgcgtctccggcttcggccgttagatcgc
 gtttggtccacgcccactgtttctagacgcagaggccagagccggcaatctagcg 32640

32641 HaeII | XcmI |
 BsaHI | NarI | BaniI |
 tctgtgttagttgttagtatccactctctaaaggcatccaggccccctggcttcg
 agacacatcatcaacatcatataggtagtgagagatttcgtaggtccgcggggaccgaac 32700

32701 MspAII |
 ggttctatgtaaactccttcatgcggctgcccgtataacatccaccaccgcagaataa
 ccaagatacatttgaggaagtacgcggcagggactattgttaggtggcgcttatt 32760

32761 BsrBI | EarI | SapI |
 TaqII | AceIII | |||
 gccacacccaggccaaacctacacatcggttgcgagtcacacacgggaggagccggaaaga
 cggtgtgggtcggtggatgttaagcaagacgcgtcagttgtggcccttcggcccttct 32820

32821 BseRI | DrdII | BglII | BstYI |
 gctggaaaggatgtttttttttattccaaaagattatccaaaacctcaaaatgaag
 cgaccttcttggtacaaaaaaaaataagggtttctaataggtttggatgtttacttc 32880

32881 BsaWI | SfcI |
 atctattaagtgaacgcgtccctccgggtggcggtggtaaactctacagccaaagaaca
 tagataattcacttcgtcgcgaggggaggccaccgcaccatgttagatgtcggttctgt 32940

32941 BseRI | Eco57I | HgiEII |
 gataatggcattttaagatgttgcacaatggctccaaaaggcaacggccctcagtc
 ctattaccgttaaacattctacaacgttaccgcagggttaagggtttccgtccggagtgca 33000

caagtggacgtaaaggctaaacccttcagggtgaatctcctctataaacattccagcacc

FIGURE 28

FIGURE 28

TaqII
 SmaI |
 AvAI | |
 | |
 33841 atagccggggaaatacataccgcaggcgtagagacaacattacagccccataggagg
 tatcgcccccttatgtatggcgatctctgtatgtcggttatcc 33900

VspI AvrII
 | StyI
 |
 33901 tataacaaaattaataggagagaaaaacacataaacacctgaaaaaccctctgtcttagg
 atattgtttattatccctcttttgtatgtttggactttggaggacggatcc 33960

BpmI BsrBI HaeII
 | | Eco47III | MspAII
 | | | |
 33961 caaaatagcaccctccgctccagaacaacatacagcgctcacagcggcagcataacag
 gtttatcggtggagggcgaggtttgtatgtcgcaagtgtcgccgtcgattgtc 34020

BanI
 |
 34021 tcagccttaccagtaaaaaagaaaaaccattaaaaaacaccactcgacacggcaccaggc
 agtcggaaatggtcattttctttggataatttttgtggtagctgtccgtggtc 34080

AceIII BsgI
 | |
 34081 tcaatcagtcacagtgtaaaaagggccaagtgcagagcgagttatataaggactaaaaa
 agtttagtcagtgtcacattttccggtcacgtctcgctatatacctgatttt 34140

TaqII
 |
 34141 atgacgtaacggtaaagtccacaaaaacacccagaaaaaccgcacgcgaacctacgccc
 tactgcattgcaatttcaggtgttttgtggctttggcgtgcgtggatgcggg 34200

RleAI
 |
 34201 agaaacgaaaagccaaaaaccacaacttcctcaatcgtaacttccgtttccacgtt
 tctttgcgtttcggttttgtgtttggatgcggcaaaaagggtgc 34260

BsaAI BspBI EcII
 | | |
 34261 acgttaacttccatttaaagaaaactacaattcccaacacatacaagttactcgcccta
 tgcattgaagggtaaaattttgtatgttaagggttgtatgtcaatgaggcggt 34320

SnaBI
 |
 34321 aaacctacgtccccccccgttccacgccccgcgcacgtcacaactccacccctc
 tttggatgcgtggcgcccccaagggtgcggggcgccgtgcgtttggatggggag 34380

BsaAI BspBI EcII
 | | |
 34381 attatcatatggcttcaatccaaaataaggtatattttgtatgt
 taatagataaccqaagtttaggtttatccatataataactactac 34427

Enzymes that do cut:

AarI	AatIII	AccI	AceIII	AcI	AfI	AfI	AhDI
AloI	AlwNI	Apal	ApalI	ApoI	AsCI	AvaI	AvrII
BaeI	BamHI	BanI	BanII	BbsI	BbvCI	Bce83I	BcgI
BciVI	BclI	BglI	BglII	BmgI	BmrI	BplI	BpmI
Bpu10I	Bpu1102I	BsaI	BsaAI	BsaBI	BsaHI	BsaWI	BsaXI
BsbI	BseRI	BseSI	BsgI	BsiEI	BsiHKA	BsmI	BsmBI
Bsp24I	Bsp1286I	BspEI	BspGI	BspLU11I	BspMI	BsrBI	BsrDI
BsrFI	BsrGI	BssHII	BssSI	BstAPI	BstDSI	BstEII	BstXI
BstYI	BstZ17I	Bsu36I	BtsI	ClaI	DraI	DraIII	DrdI
DrdII	EaeI	EagI	EarI	EciI	Eco47III	Eco57I	EcoNI
EcoO109I	EcoRI	EcoRV	FseI	FspI	GdiII	HaeI	HaeII
HaeIV	HgiEII	Hin4I	HincII	HindIII	HpaI	KpnI	MluI
MmeI	MscI	MslI	MspAll	MunI	NarI	NcoI	NdeI
NgoAIV	NheI	NotI	NruI	NsiI	NspI	PacI	Pfl1108I
PflMI	PinAI	PmeI	PmlI	PshAI	Psp5II	PstI	PvuI
PvuII	RcaI	RleAI	RsrII	SacI	SacII	SalI	SanDI
SapI	SbfI	Scal	SexAI	SfcI	SfII	SgfI	SgrAI
SmaI	SmlI	SnaBI	SpeI	Sphi	SrfI	Sse8647I	SspI
StuI	StyI	SunI	SwaI	TaqII	TatI	Tth111I	Tth111II
UbaI	VspI	XbaI	XcmI	XhoI	XmnI		

Enzymes that do not cut:

Nspv

FIGURE 28

33001 -----+-----+-----+-----+-----+-----+-----+ 33060
 gttcacctgc...ccgattttggaaagtcccacttagaggatattgttaaygtcgccg
 33061 -----+-----+-----+-----+-----+-----+-----+ 33120
 ttcaaccatgcccaaataattctcatctcgccacccatctcaatataatctctaagcaatc
 aagtggtagcggtttataagagtagagcgggttggaaagagttatagagattcgtttag
 BpmI
 EaeI | Bce83I
 SspI GdIII | Eco57I HaeII SmlI
 33121 -----+-----+-----+-----+-----+-----+-----+ 33180
 ccgaatattaagtccggccattgtaaaaatctgtccagagcgccctccacccatcgcc
 ggcttataattcaggccgttaacattttagacagaggctcgccggaggttggaaagtcgga
 Tth111II
 RcaI | ApoI
 33181 -----+-----+-----+-----+-----+-----+-----+ 33240
 caagcagcgaatcatgattgcaaaaattcaggttccctcacagacctgtataagattcaa
 gttcgctcgtagtactaacgttttaagtcaggatgtctggacatattctaagtt
 Eco0109I MspAII BsgI
 Psp5II PvuII BspMI
 33241 -----+-----+-----+-----+-----+-----+-----+ 33300
 agcggAACATTAACAAAATACCGCGATCCCGTAGGTCCCTCGCAGGGCCAGCTGAACA
 tcgcctgttaattttatggcgatccaggaaagcgtcccggtcgacttgcacttgc
 EaeI
 MsII GdIII BsgI
 33301 -----+-----+-----+-----+-----+-----+-----+ 33360
 taatcgtgcaggctgcacggaccagcgccacttcccccccgaggAACCTGACAAA
 attagcacgtccagacgtgcctggcgtcgccgggtgaaggggcggtccttggaaacttt
 RleAI
 33361 -----+-----+-----+-----+-----+-----+-----+ 33420
 gaacccacactgattatgacacgcatactcgagctatgctaaccagcgttagccccgatg
 cttgggtgtgactataactgtgcgtatgacgttcacgcgtatcgttttttttttttt
 HindIII
 33421 -----+-----+-----+-----+-----+-----+-----+ 33480
 taagctttgtgcattggcgcatataaaatgcaagggtgtctcaaaaaatcaggcaa
 attcgaaacaacgttacccggcgtatattttacgttccacgcacgttttttttttttt
 Pfl1108I MsII BspMI
 33481 -----+-----+-----+-----+-----+-----+-----+ 33540
 agcctcgccaaaaaagaaagcacatcgtagtcatgctcatgcagataaaggcaggtaag
 tcggagcgcgttt
 NspI
 BsaWI AflIII
 BspEI DrdII BspLU1II Tth111II
 33541 -----+-----+-----+-----+-----+-----+-----+ 33600
 ctccggaaaccacacagaaaaagacaccattttctcaacatgtctgggggttctg
 gaggccttgggtgtcttt
 DraI
 33601 -----+-----+-----+-----+-----+-----+-----+ 33660
 cataaacacaaaataacaaaaacatttaacatttgcatttttttttttttttttttt
 gtatttgcatt
 BglI
 EaeI BsrFII
 GdIII NgoAIV
 33661 -----+-----+-----+-----+-----+-----+-----+ 33720
 gaaaaaacacccattataaggcataagacggactacggccatgcggcggtgaccgtaaaa
 ccttt
 BsaWI
 BstEII TaqII BspEI
 | BseRI | Hin4I AceIII |
 33721 -----+-----+-----+-----+-----+-----+-----+ 33780
 aactggtcaccgtgattaaaaagcaccacccgacagctctcggtcatgtccggagtcata
 ttgaccagtgccactaattttcgtgggtgtcgaggagccagttacaggcctcagtat
 TaqII BsiEI
 33781 -----+-----+-----+-----+-----+-----+-----+ 33840
 atgtaagactcggttggaaacacatcagggttatttttttttttttttttttttttt
 tacattctgagccatt

FIGURE 28